

Exhibit 1

**IN THE MATTER OF AN ARBITRATION UNDER THE HONG KONG
INTERNATIONAL ARBITRATION CENTRE ADMINISTERED ARBITRATION
RULES 2018**

Case Number: HKIAC/A20302

Between:

(1) Blockstream Corporation

(2) Thigmotropism LLC

(3) Adam Back

- and -

Claimants

**武汉市芯空科技有限公司
(formerly known as 武汉芯动科技有限公司,
also known as Innosilicon Technology Ltd)**

Respondent

**PARTIAL FINAL AWARD (SAVE AS TO
MONETARY VALUE OF DAMAGES AND COSTS)**

Dated 19 December 2023

Arbitral Tribunal

Mr. Ing Loong Yang (Presiding Arbitrator)

Mr. Stephen E. Smith (Co-Arbitrator)

Mr. Ernest Yang (Co-Arbitrator)

Seat of Arbitration: Hong Kong

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*HKIAC/A20302 – Partial Final Award (Save as to Monetary Value of Damages and Costs)***I. INTRODUCTION AND PARTIES**

1. This arbitration concerns three agreements, all dated 9 January 2018, relating to the sale of Bitcoin mining servers (“**Miners**”) and related power supply units (“**PSUs**”) between the Claimants and the Respondent. These three agreements are hereinafter referred to as the “**Agreements**”.
2. The Claimants in this arbitration are:
 - (1) Blockstream Corporation (“**Blockstream**” or “**1st Claimant**”), a Canadian company with registered offices at 925 Boulevard de Maisonneuve, Suite 331, Montreal, QC H3A 0A5, Canada. Blockstream is an industry leader in Bitcoin and blockchain technology. Among other things, Blockstream has launched a Blockstream Satellite, a Bitcoin wallet, a sidechain-based settlement network for traders and a cryptocurrency data feed. Blockstream also provides Bitcoin mining facilities, management and support for Bitcoin mining equipment owned by others. In addition to providing these services to its customers, Blockchain also mines Bitcoins on behalf of itself and others.
 - (2) Thigmotropism LLC (“**Thigmotropism**” or “**2nd Claimant**”), a US company with registered offices at 150 Spear Street, Suite 1800, San Francisco, California 94015, United States of America.
 - (3) Adam Back (“**Mr. Back**” or “**3rd Claimant**”), an individual residing in Malta with a legal residence at Apt M6, Belmonte Heights, Depiro Street, Sliema, Malta, SLM2032. Adam is the current chief executive officer (“**CEO**”) of Blockstream. Mr. Back also mines Bitcoins for his own use and commercial profit.
3. The Claimants are represented in this arbitration by Mayer Brown LLP, principally B. Ted Howes and Johnson Ng, and led by barristers Jonathan Chang SC and Martin Ho.
4. The Respondent is 武汉市芯空科技有限公司, formerly known as 武汉芯动科技有限公司, also known as Innosilicon Technology Ltd. The Respondent is a limited liability company established under the laws of the People’s Republic of China (“**PRC**”), with its principal place of business at No. 1, 1-5 Floor, No. 7 Jinronggang 1st Road, Wuhan East Lake Hi-tech Development Zone, Wuhan, 430223, PRC. The Respondent also has a business address of Building A13, Optical Valley Avenue, Wuhan, 430000, PRC.
5. The Respondent is represented in this arbitration by Allbright Law Office of 9, 11, 12/F Shanghai Centre Tower, No. 501, Yincheng Road, Pudong New Area, Shanghai, PRC, principally Roger Miao and Hui Ye, and led by barristers Victor Dawes SC and Astina Au.
6. The Claimants and the Respondent shall each be referred to in this Partial Award as a “**Party**” and collectively as the “**Parties**”.

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7. The Respondent is not to be confused with another entity which featured in these proceedings, with the exact same name, also known as Innosilicon Technology LTD. However, that entity is incorporated in Samoa. For the sake of clarity, we shall refer to the entity incorporated in the PRC as the “**Respondent**” or “**Innosilicon Wuhan**”, and the entity incorporated in Samoa as “**Innosilicon Samoa**”.
8. By way of its Partial Award on Jurisdiction dated 5 July 2022 (the “**Partial Award on Jurisdiction**”), the Tribunal found that it had jurisdiction over the Respondent (or Innosilicon Wuhan) in the present arbitration.
9. In this phase of the arbitration, the issues center on liability and quantum (if liability is established) on the part of the Respondent. The Claimants allege, *inter alia*, that (1) delivery of the Miners did not complete on time in accordance with the contractual deadline; and (2) there are extensive and multifarious defects in the equipment, with the actual hash rate being around half of the contracted-for hash rate.¹
10. The Respondent alleges that the Claimants have failed to prove that any of the Miners delivered was defective, and further that the alleged defects in the Miners had been caused by poor mismanagement or maintenance of Bitcoin farm.

II. PROCEDURAL HISTORY

11. As the procedural history of this matter is lengthy, the Tribunal will not set out in detail every single event, save for the more important ones. It suffices to say that all discussions and submissions have been documented in writing and considered by the Tribunal and reference can be made to the correspondence concerned.
12. On 30 December 2020, the Claimants submitted their Notice of Arbitration.
13. On 3 February 2021, the Respondent submitted its Answer to the Notice of Arbitration.
14. On 17 May 2021, the Tribunal was constituted by the Hong Kong International Arbitration Centre (“**HKIIAC**”), comprising Stephen E. Smith (co-arbitrator), Ernest Yang (co-arbitrator) and Ing Loong Yang (Presiding Arbitrator).
15. The relevant contact details of the members of the Tribunal are as follows:

Mr. Stephen E. Smith

Addresses:

Steve Smith ADR LLC

(1) 69 Wild Plum Lane, Littleton, Colorado 80123 USA

(2) 162 Sahagian Road, Belgrade, Maine 04917, USA

¹ “Hash rate” is a measure of speed at which Bitcoin miners operate (mega hash per second, giga hash per second, tera hash per second or peta hash per second). Bitcoin mining equipment produces such hash rate guessing all possible hashes until the correct one is found, at which point a Bitcoin is awarded to the miner.

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Mr. Ernest Yang

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25/F, Exchange Square 3, 8 Connaught Place, Central, Hong Kong SAR
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Email: Ernest.Yang@dlapiper.com

Mr. Ing Loong Yang

Address:
Akin Gump Strauss Hauer & Feld
Units 1801-08 & 10, 18th Floor, Gloucester Tower, The Landmark, 15 Queen's Road Central, Hong Kong SAR
Tel: +852 3694 3018
Email: Ingloong.Yang@lw.com (until 5 April 2022)
IngLoong.Yang@akingump.com (from 6 April 2022 onwards)

16. On 2 July 2021, the Tribunal issued Procedural Order No. 1 (“**PO1**”), which contained procedures for conducting the arbitration and a procedural timetable, jointly agreed by the Parties.
17. In PO1, the Parties agreed, *inter alia*, that –
 - (1) The arbitration is to be administered by the HKIAC under the 2018 HKIAC Administered Arbitration Rules (“**HKIAC Rules**”). The arbitration is therefore subject to the Hong Kong Arbitration Ordinance;
 - (2) The seat of arbitration is Hong Kong;
 - (3) The language of arbitration is English;
 - (4) There is a dispute over the jurisdiction of the Tribunal which falls to be resolved and this is provided for in the procedural timetable attached;
 - (5) The governing law of the Agreements is Hong Kong law.
18. On 5 July 2022, the Tribunal handed down its Partial Award on Jurisdiction of even date (defined above as the “**Partial Award on Jurisdiction**”), dismissing the Respondent’s Jurisdictional Objection with costs. The earlier procedural steps from 26 July 2021 to 5 July 2022 were covered in the Partial Award on Jurisdiction.

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19. On 12 July 2022, the Tribunal made the following directions for the further conduct of the arbitration:
 - (1) Costs in relation to the jurisdictional phase of the proceedings
 - (a) By 1 August 2022, the Parties were to make their respective costs submissions and submit their costs schedule;
 - (b) By 15 August 2022, the Parties were to submit their response to costs submissions.
 - (2) Timetable for the merits phase of the proceedings
 - (a) The Parties were to confer and submit to the Tribunal an agreed timetable for the conduct of the merits phase of the proceeding, by 25 July 2022.
20. On 25 July 2022, the Parties exchanged their respective proposed procedural timetable for the merits phase.
21. On 2 August 2022, having considered the Parties' respective proposals, the Tribunal issued the Procedural Timetable for the Merits Phase of even date (the "**Timetable for the Merits Phase**"), together with explanations on its decisions on the various differences between the Parties.
22. On 23 September 2022, the Claimants filed the Statement of Claim dated 23 September 2022, together with exhibits, legal authorities and the following witness statement and expert report:
 - (1) Witness Statement of Alec Chen dated 22 September 2022²; and
 - (2) Expert Report of Greig Taylor dated 23 September 2022³ ("**First Taylor Report**").
23. On 18 October 2022, the Tribunal handed down its Partial Award on Costs of the Jurisdictional Challenge of even date ("**Partial Award on Costs of the Jurisdictional Challenge**"). The procedural steps in relation to the costs of the jurisdictional challenge were covered in the Partial Award on Costs of the Jurisdictional Challenge. In that Award, the Tribunal ordered Respondent to pay USD1,033,229.21 plus expenses of USD21,861.73 which the Tribunal understands has not been paid as of the date of this Award. The Tribunal also notes that throughout this proceeding, during both the jurisdictional phase and the merits phase, the Respondent has failed to make any payments to HKIAC for Respondent's share of costs requested by HKIAC, and throughout, Claimants have paid their own as well as Respondent's share of deposits requested by HKIAC.
24. On 14 November 2022, the Respondent wrote to the Tribunal seeking a 25-day extension for the filing of its Defence Memorial including supporting witness statement(s), expert

² See Merit Hearing Bundle [A1/12/283-300].

³ See Merit Hearing Bundle [A2/23/456-492].

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report(s) and documentary evidence, from 18 November 2022 (Friday) to 13 December 2022 (Tuesday). Along with the application for extension, the Respondent also circulated a procedural timetable for the merits phase marking the adjusted timetable if its application were to be granted.

25. On 15 November 2022, the Claimants objected to the Respondent's request for extension and circulated its proposed compromise timetable for the merits phase.
26. On 16 November 2022, the Tribunal made directions on the revised deadlines for the merit phase. The time limit for the Respondent to file the Defence Memorial was extended to 6 December 2022, and the time limit for the Parties to file document requests was extended to 16 December 2022. On 17 November 2022, the Amended Timetable for Merits Phase (the "**Amended Timetable for Merits Phase**") was circulated to the Parties.
27. On 2 December 2022, the Respondent sought another 7-day extension for the filing of its Defence Memorial. On 3 December 2022, the Claimants objected to the Respondent's application for extension. Also on 3 December 2022, the Tribunal granted a final three-day extension, moving the deadline from 6 to 9 December 2022.
28. On 5 December 2022, the Claimants requested revisions to the time limits for the Reply Submissions and the document production steps in light of the additional extension granted to the Respondent. On 6 December 2022, the Respondent stated that it had no objection to the Claimants' request on the condition that the deadline for its submission of the rejoinder be correspondingly extended.
29. On 8 December 2022, the Tribunal granted the extensions sought by the Parties. On 9 December 2022, the Second Amended Timetable for Merits Phase (the "**Second Amended Timetable for Merits Phase**") was circulated to the Parties.
30. Also on 9 December 2022, the Respondent filed the Statement of Defence of even date, accompanied by exhibits, legal authorities and the following witness statements and expert report:
 - (1) Witness Statement of Alex Ao dated 9 December 2022⁴;
 - (2) Witness Statement of Gordon Ao dated 9 December 2022⁵;
 - (3) Witness Statement of Robin Jia dated 9 December 2022⁶;
 - (4) Witness Statement of Daniel W.K. Rafuse dated 9 December 2022⁷; and
 - (5) Expert Report of Ang Chen dated 9 December 2022⁸ ("**First Chen Report**").

⁴ See Merit Hearing Bundle [A1/13/301-333].

⁵ See Merit Hearing Bundle [A1/14/334-341].

⁶ See Merit Hearing Bundle [A1/15/342-348].

⁷ See Merit Hearing Bundle [A1/16/349-356].

⁸ See Merit Hearing Bundle [A2/24/493-526].

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31. On 19 December 2022, both sides filed and exchanged their respective Document Requests for the Merits Phase.
32. On 9 January 2023, the Parties exchanged their respective responses to each other's Document Requests for the Merits Phase. On the same day, the Respondent produced part of the documents requested by the Claimants.
33. On 16 January 2023, the Parties exchanged their respective replies to each other's responses on Document Requests for the Merits Phase.
34. On 1 March 2023, the Tribunal issued Procedural Order No. 4 ("**PO 4**") with two Schedules in which the Tribunal's rulings on the Parties' Document Requests for the Merits Phase were provided.
35. Also on 1 March 2023, the Respondent requested that the Tribunal make an order directing the Claimants to deliver certain miners to an independent expert for inspection in accordance with Article 25 of the HKIAC Rules and Article 7 of the IBA Rules on the Taking of Evidence in International Arbitration (2020) (the "**Proposed Inspection**").
36. On 3 March 2023, the Claimants objected to the Respondent's Proposed Inspection and requested an order denying such application.
37. On 21 March 2023, a case management conference was held by the Tribunal and the Parties at 8 am Hong Kong time (the "**First CMC**"). In the First CMC, the following matters were discussed:
 - (1) The Respondent's application for inspection of miners;
 - (2) The merits hearing dates; and
 - (3) The Tribunal's proposed appointment of a Tribunal Secretary.
38. Upon the Parties' agreement to the appointment of a Tribunal Secretary in the First CMC, on 21 March 2023, the Tribunal appointed Ms. Xiaojun Wang as the Tribunal Secretary in this arbitration. Her curriculum vitae and Declaration of Acceptance and Statement of Availability, Impartiality, and Independence were circulated to the Parties on the same day.
39. On 22 March 2023, the Parties respectively produced documents in accordance with the Tribunal's document production rulings in PO 4.
40. On 23 March 2023, the Tribunal issued its Procedural Order No. 5 ("**PO 5**") dismissing the Respondent's application for inspection of miners and fixing the merits hearing dates on 12 to 16 June 2023 ("**Merits Hearing**").
41. On 24 March 2023, the Tribunal circulated the Third Amended Timetable for Merits Phase (the "**Third Amended Timetable for Merits Phase**") amending the time limits for Reply Submissions, Rejoinder Submissions, Case Management Conference, and Agreed Hearing Bundles. This was necessitated by the Tribunal's ruling on document production on 1

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March 2023. The Third Amended Timetable was further updated by the Tribunal on 29 March 2023.

42. On 19 April 2023, the Claimants filed the Claimants' Statement of Reply dated 19 April 2023, accompanied by exhibits, legal authorities and the following witness statements and expert report:

- (1) Reply Witness Statement of Alec Chen dated 17 April 2023⁹;
- (2) Reply Witness Statement of Benjamin Mejia dated 17 April 2023¹⁰; and
- (3) Reply Expert Report of Greig Taylor dated 18 April 2023¹¹ ("**Second Taylor Report**").

43. On 11 May 2023, the Respondent requested a 14-day extension for the filing of its Rejoinder Memorial, to which the Claimants objected on 12 May 2023.

44. On 13 May 2023, the Tribunal informed the Parties that it was not inclined to grant the 14-day extension as requested. However, it was prepared to grant a 48-hour extension such that the Respondent shall file its Rejoinder Submissions by 19 May 2023.

45. On 19 May 2023, the Respondent filed the Statement of Rejoinder of even date, accompanied by exhibits, legal authorities and the following witness statements and expert report:

- (1) Second Witness Statement of Alex Ao dated 19 May 2023¹²;
- (2) Second Witness Statement of Gordon Ao dated 19 May 2023¹³;
- (3) Second Witness Statement of Peng Peng dated 19 May 2023¹⁴; and
- (4) Second Expert Report of Dr. Chen Ang dated 19 May 2023¹⁵ ("**Second Chen Report**").

46. On 24 May 2023, the Tribunal and the Parties held the Second Case Management Conference at 7.30 am Hong Kong time ("**Second CMC**"), during which the logistics of the Merits Hearing were discussed. After the Second CMC, the Tribunal made certain procedural directions via email on the same day.

47. On 25 May 2023, the Respondent informed the Tribunal that its registered Chinese name was changed from "武汉芯动科技有限公司" to "武汉市芯空科技有限公司" on 8 March 2023. The Respondent also confirmed that no other changes had been made to its corporate

⁹ See Merit Hearing Bundle [A1/17/357-383].

¹⁰ See Merit Hearing Bundle [A1/18/384-411].

¹¹ See Merit Hearing Bundle [A2/25/527-556].

¹² See Merit Hearing Bundle [A1/19/412-419].

¹³ See Merit Hearing Bundle [A1/20/420-439].

¹⁴ See Merit Hearing Bundle [A1/21/440-445].

¹⁵ See Merit Hearing Bundle [A2/26/557-589].

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information. As such, the Respondent's English name, "*Innosilicon Technology LTD*," remains unchanged. This is the reason why the case name has been updated here in the Final Award.

48. On 31 May 2023, in accordance with the Tribunal's directions on 24 May 2023, the Claimants submitted a Supplemental Witness Statement of Benjamin Mejia dated 30 May 2023¹⁶, together with supporting exhibits.
49. On 7 June 2023, the Parties filed their Opening Submissions accompanied by Lists of Authorities.
50. On 8 June 2023, the Parties jointly filed the (i) Agreed List of Issues and (ii) Agreed Statement of Facts. On 9 June 2023, the Parties jointly filed the Agreed Chronology.
51. The Parties' Agreed List of Issues are reproduced below:
 - (1) In terms of liability:
 - (a) Whether the Respondent breached sections 5, 9 and Appendix A and/or any implied terms of the Agreements by delivering miners and PSUs that were inherently defective;
 - (b) Whether the Respondent breached sections 2 and 4 of the Agreements by failing to deliver the contracted-for miners and PSUs before 25 May 2018 and whether the Claimants are estopped from alleging such breach; and
 - (c) Whether the Respondent failed to perform its warranty obligation under section 9.2 of the Agreements;
 - (2) In terms of quantum (which issue only arises if the Claimants succeed on any of the above issues), what, if any, loss have the Claimants suffered as a result of the Respondent's alleged breach(es) of the Agreements.
52. From 12 to 16 June 2023, the Merits Hearing was held at HKIAC. The following persons were present at the Merits Hearing:

The Tribunal: Mr. Stephen Smith, Mr. Ernest Yang, Mr. Ing Loong Yang

The Tribunal Secretary: Ms. Xiaojun Wang

The Claimants' Attendee List:

Name	Role	Location
Jonathan Chang SC	Counsel for the Claimants	Hong Kong
Cedric Yeung	Counsel for the Claimants	Hong Kong

¹⁶ See Merit Hearing bundle [A1/22/446-455].

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Johnson Ng (Mayer Brown)	Counsel for the Claimants	Hong Kong
Emily Lo (Mayer Brown)	Counsel for the Claimants	Hong Kong
Ka Wai Leung (Mayer Brown)	Trainee Solicitor of Counsel for the Claimants	Hong Kong
Henry Lee (Mayer Brown)	Intern of Counsel for the Claimants	Hong Kong
Alec Chen	Witness for the Claimants	Hong Kong
Ben Mejia	Witness for the Claimants/Claimants' representative	Hong Kong
Greig Taylor	Expert Witness for the Claimants	Hong Kong

The Respondent's Attendee List:

Name	Role	Location
Victor Dawes SC	Counsel for the Respondent	Hong Kong
Astina Au	Counsel for the Respondent	Hong Kong
John CK Chan	Counsel for the Respondent	Hong Kong
Roger Miao (Allbright)	Counsel for the Respondent	Hong Kong
Emma Ye Hui (Allbright)	Counsel for the Respondent	Hong Kong
Daniel Rafuse	Witness for the Respondent	Hong Kong
Peng Peng	Witness for the Respondent	Via video from Wuhan, China
Robin Jia	Witness for the Respondent	Hong Kong
Alex Ao	Witness for the Respondent/Respondent's representative	Hong Kong
Gordon Ao	Witness for the Respondent	Hong Kong
Ang Chen	Expert Witness for the Respondent	Hong Kong

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53. During the Merits Hearing, the Claimants submitted Mr. Greig Taylor's slides for his presentation on 12 June 2023. This was admitted into the evidence by the Parties' agreement.
54. The Respondent filed the following documents during the Merits Hearing:
 - (1) On 12 June 2023, a document named "*the Fundamental Problem with C's case*"; and
 - (2) On 15 June 2023, Prof Ang Chen's PowerPoint for his presentation. This was admitted to the evidence by the Parties' agreement.
55. At the conclusion of the Merits Hearing and after consultation with the Parties, the Tribunal directed that closing submissions were to be filed by 7 July 2023. The Parties were also directed to indicate whether they intended to file reply submissions by 13 July 2023.
56. On 7 July 2023, the Parties filed and exchanged their Closing Submissions for the Merits Phase. Attached to the Claimants' Closing Submissions were additional legal authorities marked CL-92 to CL-104. Attached to the Respondent's Closing Submissions were additional legal authorities marked RLOA 13 to RLOA 19.
57. On 12 July 2023, the Respondent sought leave to file reply submissions and the points it wished to reply on. On the same day, the Claimants also sought leave to file reply submissions to address certain points arising from the Respondent's Closing Submissions.
58. On 14 July 2023, the Tribunal granted leave to both sides to submit reply written submissions on or before 4 August 2023.
59. On 4 August 2022, the Parties filed and exchanged their Reply Closing Submissions.

III. FACTUAL BACKGROUND

60. The facts leading to the conclusion of the Agreements (as defined below) between the parties have been set out in paras 27-156 of the Partial Award on Jurisdiction dated 5 July 2022 and need not be repeated.
61. The facts relating to the current (merits) phase of the proceedings are relatively straightforward. In a nutshell, each of the 3 Claimants entered into a Purchase Contract for BTC Miners (each an "**Agreement**" and collectively, "**the Agreements**") with the Respondent to purchase Bitcoin mining machines, known as T1 Miners, that were held out (by the Respondent) to be capable of performing at a hash rate of 15TH¹⁷-16TH/s, variation of +/-6% expected) for the purpose of mining Bitcoins. Mining is a process by which Bitcoin miners receive a Bitcoin reward by solving a complex computational problem known as a "proof of work". The solution to that problem is a 256-digit binary number known as a "hash".

¹⁷ TH stands for terahash.

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62. Bitcoin miners use high-powered mining devices to guess all possible hashes under the correct solution is found. The higher the hash rate of the mining equipment (which measures the number of hashes generated per second), the more effective it is.
63. There is a finite supply of Bitcoin. By design, the difficulty of Bitcoin mining increases steadily over time while the Bitcoin rewarded decreases. It follows that Bitcoin would become increasingly difficult to obtain over time.
64. The purchase price for the 3 contracts are as follows:
 - a. Blockstream Agreement: USD 10,000,000 (based on 113.6PH at USD 88/ terra hash (TH)¹⁸;
 - b. Thigmotropism Agreement: USD 10,000,000 (based on 113.6PH at USD 88/TH)¹⁹;
 - c. Back Agreement: USD 500,000 (based on 5.68 peta hash (PT) @ USD 88/TH)²⁰.
65. It is not disputed that the Claimants had, between 10 January 2018 and 16 January 2018, paid a total of USD 20,500,000 under the Agreements²¹, representing full payment under the Agreements.
66. The Agreements are almost identical in nature except for the identity of the purchaser and the amount of petahash purchased. Under each Agreement, it was also agreed that the Respondent would sell and deliver at the same time it made available the T1 Miners to the purchaser, a sufficient number of 1600W PSUs at a cost of USD 100 per PSU.
67. The relevant provisions of the Agreements for the purpose of this arbitration include but are not limited to:
 - 68.1 Section 2: The Respondent shall supply Bitcoin miners which conform to the specifications in Appendix A and which supply a total hash rate of 232.88 PH/s;
 - 68.2 Section 4.3: Delivery of the Miners shall be no later than 25 May 2018;
 - 68.3 Section 5: the Miners delivered under the Agreements shall outperform any existing miners in the market to date;
 - 68.4 Section 9.2: if during a 6 months (sic) warranty period the product will appear defective as a result of poor-quality manufacture and-or application of poor-quality materials (latent defects) the Respondent undertakes the responsibility for replacing the defective goods if the Claimants' claim can be validated by the Respondent.
 - 68.5 Appendix A: this sets out the description of the T1 Miners. For each Agreement, there is a different hash rate specified, but the aggregate hash rate of the 3

¹⁸ Exhibit C-1 [B1/1/1-4]

¹⁹ Exhibit C-3 [B1/1/9-12]

²⁰ Exhibit C-2 [B1/2/5-8]

²¹ SOD §14 [A1/4/51]; Exhibits C-17 to C-19 [B1/9-11/46-47(1)]

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Agreements is 232.88 PH/s. In addition the Miners shall conform to the specifications set out therein, which specifications include the number of ASICs (a chip type) at an efficiency level and conforming to the specifications set out therein; as well as a sufficient number of 1600W PSUs.

68. On 12 February 2018, the Respondent delivered the first shipment of Miners to the Claimants, which shipment was received by the 1st Claimant in March 2018. The delivery process went on until September 2018 when it was completed. All of the Miners were delivered to the Claimants' Montreal Farm.
69. Around 15 March 2018, the Respondent's engineers discovered hidden cracks inside the chips supplied by its chip supplier, Jiangsu Changjiang Electronics Tech Co ("JCET"). A statement was provided by Respondent's Ao Hai (a.k.a. Gordon Ao) on 4 July 2020 to the Jiangyin Public Security Bureau²² in which he stated this²³. Gordon Ao further said that the Respondent's appointed expert tested the Printed Circuit Boards (PCBs) and substrates and found that the PPT substrates were not resistant to high temperature and had the same reliability problems on various PCB boards, which was the root cause of the quality issues.
70. On 16 March 2018, the Respondent sent an email to JCET complaining that there was no signal output in the hash boards and the failure rate was as high as 25%²⁴.
71. In April 2018, further complaints were made by the Respondent to JCET. On 19 April 2018, the Respondent sent an email to JCET²⁵ to complain about cracks in the JCET chips which would damage the pins during the production and operation of miners, causing them to fail to work; that the Respondent had produced a large number of miners before 16 March 2018 which had already been delivered to the Respondent's customers and were being returned for repair with a repair rate of up to 50%; and that this had caused heavy losses to the Respondent and badly impacted the end customer.
72. In May 2018, the Claimants began to complain about the defective miners delivered by the Respondent.
73. In June 2018, the Respondent messaged the Claimants to apologize for the delay and confirmed that their engineers had pinpointed the hash boards to be the problem.
74. From that point until February 2019, the Claimants continued to complain about the defective Miners supplied by the Respondent²⁶. The exchanges between the parties were

²² Exhibit C-82 [B2/50/670-675]

²³ According to Ao Hai's oral testimony when asked by the Tribunal, Ao Hai said that he was made to give a statement to the police due to a criminal complaint made by JCET. See Transcript [D4/79:2-20]

²⁴ Exhibit C-77 [B2/45/639]

²⁵ Exhibit C-76 [B2/44/623-624]

²⁶ [B1/19/138-139] ("we are supposed to received 306818 terrahash worth of miners and our hash rate is low"; "with our current hashrate we should have 23,000 miners. We currently only have 16540 miners"); [B1/19/163] (Mejia: "We have at least 1000 miners out of the ones that are currently powered that have a hash board unfound. If they do not activate in the software, the only solution so far is to change the control board. I have tried the debug board to flash but it does nothing to help. I have also tried to change the hash board but it still does not show up"); [B1/19/169-170]; [B1/19/177-178] ("No. The replacement boards we have also have issues. I just did replacements on about 25 control boards and I kept a watch on those boards to see how they performed. Many of them have spi port issues that cause some hashboards to be unfound.");

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principally conducted on WeChat and the various personalities were: Alec Chen, Ben Mejia and Chris Cook of the Claimants, and Alex Ao (who went by the nickname @naturenow) and Robin Jia (who went by the nickname Robin 小涛) of the Respondent.

75. On 6 September 2018, the Respondent informed JCET that it had paid “substantial compensation” to its customer due to the defective chips supplied by JCET and that there were “a mountain of defective machines” due to such defects (i.e. crack of the substrate)²⁷.
76. On 7 January 2019, the Respondent by email demanded compensation from JCET in the sum of USD 25 million²⁸.
77. On 4 July 2020, Gordon Ao said in his statement to the Jiangyin Police that (i) “[the JCET Miners] have brought [Innosilicon Wuhan] huge losses, such as compensation for various kinds of customers”; (ii) “these miners were getting worse and worse after continuous use”; and (iii) customers to whom Respondent had delivered defective miners were “several main overseas customers” and “[Innosilicon Wuhan] would provide proof of loss in court”²⁹.
78. On 12 November 2020, the Respondent received a demand letter from the Claimants’ counsel³⁰.
79. In December 2020, at the hearing of the Respondent’s lawsuit against JCET in the PRC courts, the Respondent produced evidence to prove that JCET’s defective chips had caused it losses. The Respondent exhibited the Claimants’ demand letter in the present arbitration to show that the JCET Miners had led to significant claims from its downstream customers³¹.
80. Despite the Respondent’s assurances to the Claimants that the Respondent would send workers to the Montreal Farm for on-site repairs, those assurances were not fulfilled. Months later, on 19 January 2019, the Respondent finally sent a lone employee, Leon Liu, to the Montreal Farm. Liu spent less than a day at the farm where he texted photographs of the broken miners to the Respondent. On the following day, Alex Ao (who went by the WeChat nickname @naturenow stated “we understand the situation and negotiate with

[B1/19/253] (“@AdaX How do you want to handle broken miners under warranty? We have about 2000 miners that are broken. 307 have 3 board offline, and 1076 that have 1 board offline. And about 100 that we are not sure what the error is, but they are not working.”);

[B1/19/321-323] (“As we have 3000 broken miners that need support” “their goal is not fixing them on site, but to understand the situation and identify those problems, the we would know the best solution. 3000 broken miners is a big trouble. We have to prepare for it.”);

[B1/19/333] (“we understand the situation and negotiate with some contractors to do the job. Stay tune!”);

[B1/19/335-336] (“@naturenow also it sounds like you are shipping miners to montreal? And that there are only 600. We have over 5000 broken machines, what are we doing to do about the rest.” Naturenow: “I heard 3000 miners had issue, but it becomes 3000 now?” Cook “That is just in montreal, we have another 2000 or os at another location that are also bad. The other 2000 or so have strange problems. They won’t even boot. We have swapped control boards, and did not fix.” Naturenow: “yes, I talked with chris, those guys think they can get the job done in 7 days. But you guys can check their progress in the first 3 days.”

²⁷ Exhibit C-96 [B2/64/816]

²⁸ Exhibit C-97 [B2/65/821]

²⁹ Exhibit C-82 [B2/51/675-676]

³⁰ Exhibit C-83 [B2/81/678]

³¹ Exhibit C-33 [B1/17/92] and exhibit C-83 [B2/51/678, 687]

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some contractors to do the job. Stay tune!”. After Leon Liu’s visit, no one from the Respondent ever visited the farm again.

81. The defective miners were never shipped to China for the Respondent to replace, nor did the Respondent ever send replacement miners to the Claimants. There was an attempt by the Respondent to ask its associate, Daniel Rafuse, to send 600 replacement miners to the Claimants but this did not materialize and ended with Mr Rafuse offering to sell 89 miners to the Respondent which were not produced by the Respondent.
82. In February 2020, while the Respondent was pitching its new generation of miners (T3 miners) to the Claimants, Robin Jia admitted that the previous miners had “factory problems” and caused it losses³². The WeChat conversation went as follows:

“Hi Robin – as I said we are cautious because we have a lot of problems from your miners since the beginning and not much support.”

Robin: “First, I’m sorry for our after sales support. But as you know, we had set up after sales group for you our VIP customer. And if you need, we can send people to your farm to training your engineer, so the problem of miners will be solve quickly... Gordon and Ada all want to provide good service for you.”

Robin: “believe us, believe T3+”

Alec: “We’ve tried getting support for your team and it failed almost every time. We were stuck with unreliable equipment and a lot of lost revenue due to it.”

Robin: “history is history, T1 is our first generation, there are some factory problem, we’ve lost more actually”.

83. From the facts set out above, it would appear that the Respondent had quality issues with its supplier, JCET, concerning the chip components of the Miners and the Respondent had been corresponding continuously with JCET regarding these problems. At the same time, the Miners containing the problematic components were sold and delivered to the Claimants which caused the Claimants to complain to the Respondent about malfunctioning Miners. This eventually led to the current arbitration commenced by the Claimants against the Respondent and also two sets of court proceedings in Mainland China between the Respondent and JCET and also a police investigation relating to quality issues. In the Mainland China court proceedings, the Respondent had relied on the claim made by the Claimants against it in this arbitration to make claims against JCET. The claims were clearly connected.

IV. PARTIES’ REQUESTS FOR RELIEF

84. The Claimants seek an Award:

³² Exhibit C-48 [B1/19/347]

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- (1) declaring that the Respondent breached the Agreements by providing defective mining equipment that failed to meet the required contractual specifications³³;
- (2) of monetary damages that the Claimants suffered as a result of the Respondent's breaches of the Agreements³⁴, in two alternative forms:
 - i. Consequential losses in respect of the lost Bitcoins and loss of hosting fees³⁵:
 - (a) The Respondent do pay to the 1st Claimant damages in the sum of the market value of 530.6 Bitcoins as of the date of the award plus US\$6,169,975 in lost hosting fees;
 - (b) The Respondent do pay to the 2nd Claimant damages in the sum of the market value of 1,736.4 Bitcoins as of the date of the award less US\$16,266,011 in incremental electricity costs; and
 - (c) The Respondent do pay to the 3rd Claimant damages in the sum of the market value of 64.6 Bitcoins as of the date of the award less US\$397,943 in incremental electricity costs.
 - ii. Alternatively to (i) above, direct losses suffered by the Claimants³⁶:-
 - (a) The Respondent do pay damages in the sum of US\$4,715,332 to the 1st Claimant, plus pre-award interest (at prime + 1%) from 26.5.2018;
 - (b) The Respondent do pay damages in the sum of US\$4,912,026 to the 2nd Claimant, plus pre-award interest (at prime + 1%) from 26.5.2018;
 - (c) The Respondent do pay damages in the sum of US\$200,797 to the 3rd Claimant, plus pre-award interest (at prime + 1%) from 26.5.2018;
- (3) awarding post-award interest at 8% per annum on all sums found due until date of final payment to the Claimants³⁷;
- (4) awarding costs of this arbitration, including but not limited to³⁸:-
 - (a) The fees and expenses of the Tribunal;
 - (b) HKIAC's administrative expenses; and
 - (c) Legal and other costs incurred by the Claimants in this arbitration.

³³ See the Claimants' Notice of Arbitration [A1/1/1-14].

³⁴ Ibid.

³⁵ See the Claimants' Closing Submissions dated 7 July 2023.

³⁶ Ibid.

³⁷ Ibid.

³⁸ Ibid.

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85. The Respondent seeks the following relief³⁹:

- (1) The Claimants' claims be rejected in its entirety; or
- (2) Alternatively to (1) above, only nominal damages shall be awarded to the Claimants in respect of the issue of liability as to whether the Respondent breached sections 5, 9 and Appendix A and/or any implied terms of the Agreements.

V. ISSUES FOR DETERMINATION

86. Based on the Agreed List of Issues⁴⁰, the Tribunal has decided to address those issues which it considers relevant to the determination of the Parties' disputes in light of the Parties' pleadings and requests for relief. Each of these issues will be dealt with below in the sequence that the Tribunal deems most appropriate.

VI. ISSUE 1: WHETHER THE RESPONDENT BREACHED SECTIONS 5, 9 AND APPENDIX A OF THE AGREEMENTS AND/OR ANY IMPLIED TERMS OF THE AGREEMENTS BY DELIVERING MINERS THAT WERE INHERENTLY DEFECTIVE

87. Did the Respondent breach the Agreements by delivering allegedly inherently defective miners?

(1) Apart from the records from the JCET proceedings, whether the Claimants have established inherent defects in the Miners by way of the evidence submitted

Claimants' Case

88. In brief, the Claimants submitted that the collective hash rate of the Miners was merely 52.1% of what the Claimants had contracted for. The Claimants say that this is direct and contemporaneously recorded evidence that the Miners fell short of the contractual specifications. The Claimants say that the evidence produced by them is not circumstantial evidence.

89. The Claimants submitted that there are only two available explanations for such deficiency: either the Miners were inherently defective (as the Claimants contend) or there were extraneous factors which caused the Miners to under-hash (as the Respondent contends).

90. The Claimants say that none of the extraneous factors upon which the Respondent relies bear scrutiny.

³⁹ See the Respondent's Closing Submissions dated 7 July 2023.

⁴⁰ See paragraph 51 above.

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91. The Respondent submitted that the Claimants relied on purported indirect and circumstantial evidence and did not deny that they had provided no direct evidence on the alleged defects. The Respondent submitted that the Claimants bear the burden of proof to satisfy the Tribunal, on the balance of probabilities, that the Miners were inherently defective (i.e. that they did not meet and were incapable of meeting the contractual specifications from the get-go).

a. Slush Pool Data is the starting point⁴¹

92. As Bitcoin mining requires larger and larger computing power, individual miners combine their computing resources into a “pool” to strengthen the possibility of mining new blocks and obtaining Bitcoins. If a new block is found, the rewards are usually divided between participants based on the computer power they contribute relative to that of the whole pool and a percentage of the total rewards is typically charged as pool fees. The Claimants have joined the Slush Pool, now renamed Brains Pool, a leading pool in crypto mining industry established in 2010, to strengthen the possibility of mining a new Bitcoin block. The relevant mining data can be extracted from the Claimants’ Slush Pool accounts. Before early 2019, all 3 Claimants used Blockstream’s pool account and Blockstream distributed Bitcoins to each of the Claimants. Beginning in 2019, each of the Claimants used its individual pool accounts⁴².
93. For the purpose of determining whether the Miners were inherently defective, the Claimants relied on the Slush Pool Data⁴³ - which they say are direct, objective and contemporaneous evidence of the actual hash performance of the Miners – as the starting point of the inquiry.
94. The Claimants submitted that the Slush Pool Data showed that the collective hash rate of the Miners was 121.27 PH/s, which was merely 52.1% of the contractual hash rate of 232.88 PH/s. The low hash rate is not circumstantial evidence and the deficient hash figures are not in dispute.
95. The Respondent submitted that low hash rate could be caused by a number of extraneous factors, for which the Respondent could not be held accountable.
96. The Respondent submitted that the Slush Pool Data did not show (and there was no other evidence to show) the number of Miners that were online/active and therefore could not be relied upon as evidence of the total hash rate of all the Miners (or working Miners) that were delivered.

⁴¹ As bitcoin mining requires larger and larger computing power, individual miners combine their computing resources into a “slush pool” to strengthen the possibility of mining new blocks and obtaining Bitcoins. Alec Chen §13 [A1/12/286].

⁴² Alec Chen’s Witness Statement, §13 [A1/12/286].

⁴³ Exhibit C-65 [B1/33/471] (note: this is exhibit C-65 and contain Excel spreadsheets which can be accessed through the corresponding link in the Index to Hearing Bundle).

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b. Were the Claimants able to substantiate the fact that all Miners were in operation during the period in question?

97. The Claimants made the following points. First, they referred to the evidence of Alec Chen (1st Claimant's Project Manager consultant), which was that all the working Miners were operated by February 2019 and, after an interruption during which some of the Miners were moved to and installed in the new Georgia farm, again in the period from August to December 2019⁴⁴.
98. Second, the Claimants contended that as a matter of inherent probabilities, it would have been wholly irrational for the Claimants, having spent USD 20.5 million purchasing the Miners, to then elect not to put all the working Miners into operation. As Alec Chen explained during cross-examination, the Claimants' priority had always been to put as many working Miners online as possible so as to make profits⁴⁵.
99. Third, whilst information as to the actual number of miners being in operation was unavailable in this arbitration, this did not warrant any adverse inference to be drawn that the Claimants failed to put all the working Miners online, given (i) the Respondent had not even demonstrated a *prima facie* case in this regard; and (ii) there was no evidence that data on the number of working and malfunctioning miners were in fact available to the Claimants. As explained by the Claimants' witnesses, the Slush Pool Data recorded the number of "workers", which did not necessarily equate with the number of working miners, and "offline workers", which did not necessarily equate with the number malfunctioning workers⁴⁶. It is also irrelevant as the Agreements provided for the sale of a stipulated amount of hash rate, not a stipulated number of miners. This is key since the number of Bitcoins obtained is based upon the hash rate at which the miners collectively operate.
100. Fourth, while Respondent contended that Claimants lacked the ability to operate all the Miners before February 2019, that does not help Respondent at all. On Alec Chen's evidence, the Claimants were ready, willing and able to make up the shortfall in capacity by engaging third party hosting service providers and by increasing the electrical power capacity of the 1st Claimant's farms. In support, the Claimants referred to (i) the draft hosting contracts Blockstream had negotiated with Coinmint in anticipation of the arrival of Respondent's miners, which contract had an effective date of 20 March 2018 (i.e. 2 months before the contractual deadline for delivery under the Agreements); (ii) a Power Purchase Agreement which Blockstream was negotiating with the City of Adel, Georgia, which would have allowed it to draw up to 40.0 megawatts of electricity by 1 June 2019 for Blockstream's Georgia farm; and (iii) the fact that Blockstream was in discussion with Hydro Quebec to substantially increase the power capacity at the Montreal Farm before the deadline for all the Miners to arrive.
101. The reason why these negotiations did not lead to any binding contract was that (i) the Miners supplied by Respondent were defective; and (ii) it would not have been sensible to offload a host of broken miners to a third party without understanding the scope of the

⁴⁴ Alec Chen WS §§14, 47 [A1/12/286, 297-298]; Alec Chen Reply WS §67 and footnote 115 [A1/17/377].

⁴⁵ Alec Chen CROSS-EXAMINATION [D1/125:6-12; 126:1-5; 146:7-20]

⁴⁶ Alec Chen CROSS-EXAMINATION [D1/132:7-133:4]; Examination-in-chief ("EIC") of Ben Mejia [D2/6:18-7:14].

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problem and whilst Blockstream’s attention was diverted to fixing the Miners. However, Blockstream did in fact enter into a hosting arrangement with DMG in 2018⁴⁷.

102. In defence, the Respondent’s first point was that the burden of proof was on the Claimants to show that the total hash rate of all the miners delivered did not reach 232.88 PH/s, thus constituting a breach of the contract. No such evidence had been provided.
103. Secondly, contemporaneous documentary evidence was not produced to support this, especially where one would have expected such evidence to be available: see *Esquire (Electronics) Ltd v. Hong Kong and Shanghai Banking Corporation Ltd* [2007] 3 HKLRD 439⁴⁸ at §135, per Stock JA.
104. Thirdly, even if the Tribunal were to consider “inherent probabilities”, there were extremely credible explanations as to why the Claimants might not have put all the “working miner(s)” online even by February 2019. It was common ground that the Montreal Farm did not have sufficient capacity to operate all the 17,227 miners delivered to the Claimants. The Claimants’ own infrastructure timeline⁴⁹ showed that the Montreal Farm only ever had capacity to host a maximum of around 8,277 miners (whereas it was not disputed that the Respondent delivered nearly 20,000 miners by that time). This was accepted by Ben Mejia⁵⁰.
105. Further, during the 8 months between June 2018 and February 2019, even though around 16,000 miners had been delivered to the Claimants (which is undisputed), not all of them (even on the Claimants’ case) had been put online. As can be seen from Figure 7 at §3.16 of the 1st Taylor Report⁵¹, the total hash rate of the miners put online was only 35.1 PH/s in June 2018, whereas a total hash rate of 113.2 PH/s was recorded in February 2019. Plainly, only a small part of the 16,000 delivered miners had been put online in June 2018.
106. The Respondent’s response to the Claimants’ submission that the Claimant only knew of the number of “workers” – as opposed to the number of miners – in operation on the Slush Pool platform was that this was false, because it was clearly the Claimants who would designate or decide the number of miners that each “worker” represented. It therefore followed that the Claimants plainly knew or had access to the number of miners that were in operation on the Slush Pool platform. It was inconceivable that the users of the Slush Pool platform could be denied such basic information as the number of miners in operation, which information is crucial for assessing the performance of the users’ miners on the platform.
107. The Tribunal will detail its findings on this issue later in this Award (see paras. 188 - 195).

⁴⁷ See Exhibit C-62 (see, e.g., draft invoice dated 30.12.2018) [B1/30/460].

⁴⁸ See RLOA #13: Respondent’s List of Authorities for Closing Submissions.

⁴⁹ See C-84, Merit Hearing Bundle [B2/52/708]

⁵⁰ See Transcript, D2/17/6-9

⁵¹ See Merit Hearing Bundle [A2/25/538]

*HKIAC/A20302 – Partial Final Award (Save as to Monetary Value of Damages and Costs)***c. Were there extraneous factors (such as overheating) that resulted in the shortfall in hash rate?**

108. The Claimants' submission is that despite the complaints made by them to the Respondent from May 2018 (about 2 months after the Respondent discovered the inherent defects in the JCET Miners) through February 2019, the Respondent never once raised any of the extraneous factors which allegedly resulted in the under-performance in terms of hash rate in the Miners. The Claimants relied on the WeChat messages sent by Alec Chen to Robin Jia in Exhibit C-48 [B1/19/127]. They also relied on the Respondent's own complaint, in a WeChat message from Ada Xiao on 20 May 2018, the same day that she and Gordon Ao visited the Montreal farm: Exhibit C-74 [B2/42/579].⁵² In that message, Ada Xiao said: "@[Peng Peng] is our software chief. The guys there is our important customer. They are setting up miners at the moment. The very early batch has high failure rate which @Benjamin Mejia thought was controller board reason. Please take a look."
109. The Claimants further relied on the unchallenged evidence of Alec Chen and Ben Mejia that, by the summer of 2018, the Claimants had isolated the primary cause of the non-working Miners as their hash boards, where the defects of the JCET Miners lay: Alec Chen Reply WS §10 [A1/17/359-360]; Ben Mejia Reply WS §§44-55 [A1/18/401-402]. Thereafter, and up to February 2019, the Claimants' complaints about the defective Miners were further documented⁵³.

<u>Date</u>	<u>From</u>	<u>To</u>	<u>Message</u>	<u>Ref</u>
3.7.2018	Ben Mejia	LA	<i>I need many hash boards still as some of the new ones will probably have problems and many of the ones we already had, we used to replace hashboards with other problems which rendered them dead.</i>	[B1/19/182]
21.8.2018	Alec Chen	Ada Xiao	<i>... We have about 2000 miners that are broken. 307 have 3 boards offline, about 600 that have 2 boards offline, and 1076 that have 1 board offline. And about 100 that we are not sure what the error is, but they are not working.</i>	[B1/19/253]
17-18.9.2018	Alec Chen	Alex Ao/ Robin Jia/ Ada Xiao	<i>[A]ny updates on sending workers to fix bad hash boards? ... Is there any updates about sending workers to fix all the broken miners at our warehouse? ... 307 have 3 boards offline, about 600 that have 2 boards offline, and 1076 that have 1 board offline. I would send extra as these machines malfunction a lot.</i>	[B1/19/282-283]

⁵² As will be described below, the WeChat messages exchanged between the Parties, amounting to over 250 pages of evidence contained in Exhibit C-48, provide an important record of communication exchanged by the Parties on key issues in this arbitration.

⁵³ Alec Chen WS §33 [A1/12/291]; Exhibit C-48 at [B1/19/130, 138-139, 163, 169-170, 177-178, 182-184, 253, 282-283, 288-289, 316-317, 321-323, 335-336].

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15.1.2019	Alex Chen	Alex Ao	<i>Are they only going to be there for a few days? As we have 3000 broken miners and need support.</i>	[B1/19/321]
25.1.2019	Chris Cook	Alex Ao	<i>We have over 5000 broken machines, what are we doing [sic] to do about the rest? ... we have [2000] or so at another location that are also bad. The other 2000 or so have strange problems. They won't even boot. We have swapped control boards, and did not fix. We tried to diagnose a few boards and we noticed some of the control pins on the data part of the hash board appear to be shorted to ground...</i>	[B1/19/335-336]

110. Prior to the filing of the Statement of Defence in this arbitration, when confronted with these complaints, the Respondent never once denied that the Miners were defective. Instead, the Respondent (i) agreed that the problem lay in the hash boards, stating “*sorry about the delay, but our engineer told me the problem is the hashboard*”; (ii) repeatedly promised to send its workers to Canada to repair the Miners⁵⁴; and (iii) acknowledged the Miners were defective one day after its employee (Leon Liu) visited the Montreal Farm on 19.1.2019, with Alex Ao stating: “*we understand the situation and negotiate with some contractors to do the job. Stay tune!*”. The Claimants submitted that these are the Respondent’s admission that the Miners were defective.
111. The Claimants also relied on the fact that in February 2020, while the Respondent was pitching its new generation of miners to the Claimants, the Respondent’s Robin Jia admitted that the Miners had “factory problems” which caused it losses. This evidence was captured from a WeChat message sent by Robin Jia who gave evidence at the hearing. Robin Jia, under cross-examination, claimed that “factory problem” referred to the yield issues experienced by the Respondent’s factories, but the Claimants submitted that this was incredible and that instead, the “factory problem” clearly referred to the inherent defects of the Miners, as it was stated in direct response to Alec Chen’s complaint that “We were stuck with unreliable equipment and lots of lost revenue due to it.”
112. The Respondent’s response to Claimants’ case is that there were contemporaneous chat records from 20 May 2018 which showed that Peng Peng had expressly suggested that problems experienced by the Miners had been due to high ambient temperature⁵⁵. On that page, Peng Peng (nickname: yougukpepp516190948) said to Ben Mejia: “I think there are two problems: 1. Many (about 80%) miner’s with old firmware, please upgrade the firmware to the newest swu; 2. Please keep the farm temperature down enough.”
113. The Tribunal notes that on B2/42/590-591, there were the following messages:

“But the management tool shows all the miners on the may 11 firmware”

⁵⁴ Discussed in detail in paras 188 - 195 below.

⁵⁵ See Exhibit C-74 (internal page 24) [B2/42/588]

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“Many of them do not report a firmware date, but if you login to the miner, you’ll see the version is correct”

“Are you sure the temperature is too high? It’s quite cool.”

“yes, the room temperature is OK” (said by Peng Peng)

“Also the firmware should be good”

114. The Tribunal does not regard Peng Peng’s evidence to be conclusive proof that there was overheating in the Claimants’ Montreal farm which resulted in the non- or under-performance of the Miners located there. It was merely, in the Tribunal’s view, a hypothesis or a possibility put forward by Peng Peng without corroborating evidence. To the extent that the Respondent relies on the recollections of Gordon Ao and Daniel Rafuse about the set up in the Montreal farm, the Tribunal finds that their recollection was in fact faulty, in that there was only one row of miners (as opposed to two rows of miners as recalled by them). Further, Peng Peng’s hypothesis appears to have been flatly contradicted by the later WeChat message identified by the Tribunal in para 116.
 115. On Robin Jia’s evidence, the Respondent submitted that she had no technical background and she only acted as a conduit between the customer and the technical staff of the Respondent. Robin Jia also explained that she did not have direct knowledge of the state of affairs at the factories of the miners, and that the technical side of things did not fall within her scope of capabilities, and that by “*factory problem*” she had been referring to the problems of “yield” (i.e. that some of the chips had been defective with the result that the Respondent had to discard a large portion of the miners produced using such chips) that she had heard about from colleagues at the factories⁵⁶.
 116. The Tribunal found Ms. Jia to be unreliable as a witness as she was evasive on many occasions under cross-examination – either by avoiding answering the question directly or appearing not to understand the question. The Tribunal also found her explanation of “factory problems” to be unacceptable in the context of the contemporaneous circumstances. When read in context, Ms. Jia’s reference to “factory problems” had to be the issues with the JCET mother boards.
- d. **Can anything be made of the fact that the Claimants had not adduced any direct evidence of the alleged defects including any third party or in-house report or any photos of the alleged defects?**
117. The Respondent submitted that the Claimants could have, but failed to, provide such evidence and had also not pleaded (let alone proved) the quantity of defective miners upon which they were seeking substantial damages. The Respondent further contended that the Claimants had not produced any record as to how many Miners there were in each category of defective Miners referred to in SOC §41(a)-(d) and that no satisfactory explanation had been provided as to why such important records had not been kept or produced in this

⁵⁶ See Transcript [D3/12:11-15].

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arbitration, apart from Ben Mejia's simple assertion that the Claimants had been "overwhelmed"⁵⁷.

118. The Claimants' explanation for this was that contemporaneous test results of the Miners were not available as the Claimants' priority at the time was to get "*miners online as quickly as possible and get them performing as high as possible*", rather than to keep records or to engage an expert to investigate the defects of the Miners⁵⁸. This was understandable and should not be criticized with the benefit of hindsight. The Claimants referred to Ben Mejia's evidence that "*it took [the Claimants] an enormous amount of time and effort dealing with the broken miners, including figuring out what the problem was ... and, then, detecting and dividing what hash boards worked from what hash boards did not work from among the thousands of delivered miners and, then consolidating the working hash boards [the Claimants] could find into the miners to get at least some performance*".⁵⁹
119. The Claimants also submitted that there is no record of the Respondent blaming the Claimants for the malfunctioning of the Miners in the extensive contemporary WeChat correspondence. Respondent raised these issues for the first time in its Statement of Defence filed in December 2022. Therefore, the Claimants could not be faulted for being satisfied with the direct evidence of under-hashing and the Respondent's unequivocal admissions as proof of defects.
120. There was also an issue between the parties as to the Claimants' reliance on the Tribunal's ruling at §18 of Procedural Order No. 5 in March 2023⁶⁰. The Tribunal's ruling dismissed the Respondent's Inspection Application – made one month before the filing date for the Claimants' Reply submissions - for an Order that the Claimants submit the Miners for inspection and examination, as any such inspection and examination would be useless because (i) both parties agreed that the lifespan of the Miners was 3 years; and (ii) that about 5 years have elapsed since the delivery of the Miners renders any testing result unreliable. The Respondent argued that the Tribunal never said that the Claimants should not or need not have produced direct evidence of the alleged defects by way of an examination or testing report.
121. The Tribunal regards this issue as one of whether the evidence produced by the Claimants was direct and persuasive. Evidence can be direct if it comes in the form of the contemporaneous form of the under-hashing of the Miners when put online. It can also be corroborated by any admissions made by the Respondent as to problems with the Miners. It does not necessarily follow that direct evidence can only be in the form of an inspection report, for even such a report by an expert witness can be challenged by the other side.
122. Given all the circumstances and considering the evidence produced by the Claimants, the Tribunal does not find support for the Respondent's criticism of the Claimants' non-

⁵⁷ See Transcript [D2/39:20].

⁵⁸ Alec Chen CROSS-EXAMINATION [D1/122:6-123:8; D1/146:7-20]

⁵⁹ Ben Mejia WS §48 [A1/18/403]

⁶⁰ See Merit Hearing Bundle [A1/10/264]

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production of testing or inspection reports, or photographs. The Tribunal is satisfied that the Claimants had produced the best evidence it had in the circumstances.

(2) What is the admissibility and weight of the evidence from the JCET Proceedings?

123. JCET is the company that supplied chips to the Respondent for the Respondent and/or its contractors to manufacture the Miners. It is a company located in Jiangsu.

124. Two sets of legal proceedings between Innosilicon Samoa and JCET were commenced in the PRC:

(1) (2020) Su 02 Minchu No. 129 in the Intermediate People's Court of Wuxi, Jiangsu Province⁶¹. In this case, Innosilicon Samoa was the Plaintiff; and

(2) (2021) Su 02 Minchu No. 22 in the Intermediate People's Court of Wuxi, Jiangsu Province⁶². In this case, JCET was the Plaintiff.

125. The chronology surrounding Innosilicon Samoa's⁶³ claims against JCET is instructive:

12 February 2018	Respondent delivered the first shipment of Miners to the Claimants, which shipment was received by Blockstream at the Montreal Farm in March 2018.
15 March 2018 (about a month after Respondent began delivering the Miners to the Claimants)	Innosilicon's engineers discovered hidden cracks inside the chips supplied by JCET. Innosilicon's independent experts further discovered that hash boards produced using JCET's chips were unresistant to heat and unreliable.
16 March 2018	Innosilicon complained to JCET that there was no signal output in the hash boards containing JCET chips and that the failure rate was as high as 25%.
19 April 2018	Innosilicon further complained to JCET that (i) the cracks in JCET's chips would damage the pins during the production and operation of mining servers, cause them to fail; (ii) Innosilicon had produced a large number of miners before 16 March 2018 ("JCET Miners") which were already delivered to Innosilicon's customers and were being returned for repair with a repair rate of up to 50%; (iii) JCET's defective chips had caused "huge losses" to Innosilicon with serious repercussions to its end-customers.

⁶¹ The Judgment appears at Merit Hearing Bundle [B3/139/1207-1265]

⁶² The Judgment appears at Merit Hearing Bundle [B2/38/488-522]

⁶³ Even though the Innosilicon entity involved in the JCET court proceedings in Mainland China was Innosilicon Samoa, the Tribunal had found in the Partial Award on Jurisdiction that the true entity that contracted with the Claimants in this arbitration was the Respondent, Innosilicon Wuhan.

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6 September 2018	Innosilicon informed JCET that it had made “substantial compensation” to its customers due to the defective chips supplied by JCET and that there were “a mountain of defective machines” due to such defects.
7 January 2019	Innosilicon demanded compensation from JCET in the sum of USD 25 million.
4 July 2020	Gordon Ao made a statement with the PRC Police on behalf of Innosilicon, described below in para 134 in respect of JCET’s defective chips.
December 2020	At the hearing of Innosilicon’s lawsuit against JCET in the PRC, Innosilicon produced evidence to prove that JCET’s defective chips had caused it losses. Innosilicon exhibited the Claimants’ complaints and demand letter in this arbitration to show that the JCET Miners had led to significant claims from its downstream customers.

126. The issue here is two-fold: (i) is the evidence in the JCET Proceedings admissible; if so, (ii) what is its weight?
127. The Respondent’s position is that it does not dispute the underlying evidence presented by the Respondent or JCET in the JCET Proceedings is admissible, in the sense that the Tribunal is entitled to receive such evidence and test it against other evidence. However, there is a limit on the evidentiary value of such evidence:
- (1) A judgment and factual finding of another court or tribunal in earlier proceedings is inadmissible as evidence of the truth of its content, being simply opinion formed by an authority of a different jurisdiction. The same applies a fortiori to the transcript sought to be relied upon by the Claimants which simply record certain representations made by the Respondent’s legal representatives at a hearing. The transcript is not a judicial decision and does not contain any findings, factual or otherwise, by the relevant mainland court. See *Hollington v. Hewthorn* [1943] 1 KB 587 [RLOA#1].
 - (2) While the Tribunal is entitled to test the evidence in the JCET Proceedings against all the other evidence adduced in this arbitration, it must not import statements made by one party in those proceedings into the present arbitration as if they are conclusive evidence on any issue herein.
128. The Respondent also submitted that the evidence in the JCET Proceedings, when properly analyzed, corroborated the existence and capability of the aging tests and supported the Respondent’s contention that it was previously mistaken in believing that there was a link between the defective JCET chips and the Claimants’ complaints of defects in their miners.

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129. Given the position taken by the Respondent, the Tribunal considers the evidence in the JCET Proceedings to be admissible in this arbitration.
130. As to the weight of the evidence, the Tribunal is in a position to attach such weight as is appropriate upon a careful analysis of the evidence. The Respondent's submission is that its position in the JCET Proceedings was "mistaken"⁶⁴. The correct position, the Respondent says, should be that the miners that were delivered to the Claimants did not contain the defective JCET chips because the defective miners had been weeded out during the agent tests that the Respondent had carried out.
131. The Respondent went further to submit that the evidence in the JCET Proceedings, when properly analyzed, actually corroborates the existence and capability of the aging tests and reinforces the Respondent's contention that it was previously mistaken in believing that there was a link between the defective JCET chips and the Claimants' complaints of defects in their miners.
132. The Claimants submitted that the Respondent's suggestion that it was "mistaken" at the time about the position it had taken in the JCET Proceedings was untenable. The Respondent's admission that the JCET Miners were delivered to the Claimants is completely consistent with all of the other evidence, including the direct, contemporaneously recorded and undisputed low hash rate of those Miners and the clear evidence that the aging tests were incapable of weeding out all defective miners.
133. The Tribunal finds it difficult to accept the Respondent's contention that it had made a mistake in taking the position that it did in the JCET Proceedings. Not only were these serious Court proceedings in the PRC where the stakes were high, in that Innosilicon was seeking damages of USD 27,015,520 caused by the defective chips supplied by JCET⁶⁵. There were in fact two sets of legal proceedings between the Respondent and JCET. In the other proceeding commenced by JCET, JCET sought a sum of USD 13,254,429.65 from Innosilicon as its "processing fee" for the chips supplied to the Respondent. In both sets of proceedings, Innosilicon had legal representation.
134. Further, the Tribunal is persuaded by the following contemporaneous evidence that Innosilicon is unlikely to have made a "mistake" in the position that it had taken in the JCET Proceedings:
- a. On 6 September 2018, Sheng Wenjin of Innosilicon's Systems Department informed JCET that it had made "substantial compensation" to its customers due to the defective chips and quality problems (crack of the substrate) supplied by JCET and that there were "a mountain of defective machines" due to such defects⁶⁶. On 7 January 2019, Innosilicon demanded compensation in the sum of US\$25 million from JCET.
 - b. On 4 July 2020, Gordon Ao made a statement to the PRC police on behalf of Innosilicon in respect of JCET's defective chips. He stated that (i) "[the JCET Miners]

⁶⁴ Respondent's Opening, §§17-22

⁶⁵ See Judgment in (2020) Su 02 Minchu No. 129: Hearing Bundle [B3/139/1207-1265]

⁶⁶ See Exhibit C-96. Merit Hearing Bundle [B2/64/816]

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have brought [Innosilicon] huge losses, such as compensation for various kinds of customers”; (ii) “these miners were getting worse and worse after continuous use”; and (iii) customers to whom Innosilicon had delivered defective miners were “several main overseas customers” and “[Innosilicon] would provide proof of loss in court”.

- c. In December 2020, at the hearing of the JCET Action, Innosilicon produced evidence to prove that JCET’s defective chips had caused it losses. Innosilicon exhibited the Claimants’ complaints and demand letter in this arbitration to show that the JCET Miners had led to significant claims from its downstream customers. At no point during the JCET Action did Innosilicon withdraw such evidence. Rather, Innosilicon’s submissions and evidence in the JCET Action show that it believed the Claimants’ complaints were attributable to JCET’s defective chips.
 - d. In its judgment dated 28 December 2021, the PRC Court (i) found that the JCET Miners were defective due to cracked substrate⁶⁷; (ii) recorded a WeChat conversation on 16 March 2018 between Gordon Ao and a JCET employee, who asked whether production of Innosilicon’s miners should cease immediately in case customers suspected that the products were defective, to which Gordon Ao replied that production could not stop; and (iii) further recorded a WeChat conversation between Sheng Wenjin of Innosilicon and another JCET employee on 20 March 2018, where the former reported that Gordon Ao would not cease production. The authenticity of the WeChat conversations were not disputed by Innosilicon.
135. In light of the above, the Tribunal finds that as early as March 2018, the Respondent was aware that the JCET chips were inherently defective. Notwithstanding that awareness, the Respondent had proceeded with full production and supplied the defective Miners to the Claimants.
- (3) Whether the alleged defects in the Miners had been caused by extraneous factors at the Montreal Farm?**
136. The Respondent’s case that any alleged defects that existed in the Miners were caused by extraneous factors at the Claimants’ Montreal Farm boils down to the following specific allegations:
- (i) Poor maintenance and poor management of the Montreal Farm;
 - (ii) Excessive ambient temperature;
 - (iii) Under-staffing;
 - (iv) Dust;
 - (v) Lack of proper insulation sheet to separate the air inlet and air outlet.

⁶⁷ Respondent’s Opening §18

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137. The Tribunal observes that none of these specific allegations were levelled by the Respondent against the Claimants until after this arbitration has commenced. The lateness of these allegations militate against the credibility of the Respondent.
138. Allegation (i) is basically an umbrella category for the rest of the 4 allegations.
139. As to allegation (ii) (ambient temperature), the Tribunal is unconvinced by the evidence of Gordon Ao and Daniel Refuse that there were two rows of miners laid out in the Montreal Farm which allowed heat to accumulate. This was demonstrated during the merits hearing to be erroneous. Given that this was the fundamental factual premise upon which the allegation of overheating was made, the Tribunal considers that there is no basis to conclude that the ambient temperature was too high in the farm. As for Peng Peng's evidence upon which the Respondent relies, the Tribunal finds that that evidence is equivocal, as Peng Peng's evidence centered on his online access to the farm software remotely on only one occasion. It does not conclusively show that the ambient temperature is constantly high, even assuming he was right about that occasion.
140. As to allegation (iii) (understaffing), the Tribunal gives this little weight, as there is a dispute between the Parties as to the actual number of staff the Claimants maintained on the farm and the difference is not so great as to affect the Tribunal's overall conclusion.
141. As to allegation (iv) (dust), again the Tribunal attaches little weight to this allegation. The Tribunal has heard direct evidence from the Claimants' witness, Ben Mejia, that adequate and proper precautions had been taken by the Claimants to insulate the Miners from any dust generated by construction. The Tribunal did not find that the Respondent's criticism of the lack of documentary evidence produced by the Claimants to that effect to be so persuasive as to tip the balance against the acceptance of Ben Mejia's evidence, since the issue of dust had not been raised by the Respondent before the arbitration, hence there was no necessity for the Claimants to have preserved or obtained such evidence then.
142. As to allegation (v) (lack of insulation), this was a point raised by the Respondent's expert witness, Dr Ang Chen, in his expert report. The Tribunal has carefully considered Dr. Chen's credentials and experience finds that he did not have any actual expertise on running mining farms. Neither had he visited the *locus in quo*, i.e. the Montreal Farm. In the premises, his evidence is of little assistance. Further, during cross-examination, Dr. Chen backtracked from his original assertion and said that his evidence was simply that insulation sheets were the cheapest way to achieve thermal insulation and that the properness of a cooling system depended on the real situation.
- (4) Whether any defective Miners would have been weeded out by the purported Aging Tests?**
143. This issue is allied to the issue of the JCET Proceedings.
144. The Respondent relied on the following to contend that aging tests had been conducted on the Miners delivered to the Claimants:

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- (i) The email dated 16 March 2018 from Sheng Wenjin of Innosilicon to David Sun, President of JCET;
 - (ii) The Signal Output Report and the Defective Goods Report produced by JCET; and
 - (iii) The Appraisal Report of Zhong Lian Assets Appraisal Co., Ltd which was submitted by the Respondent in the JCET Proceedings.
145. The Respondent further relied on the evidence of Dr. Chen to the effect that by his estimation, more than 99% of the defects in question could be “quickly found” during the aging tests.
146. The Tribunal recalls that the Respondent had submitted that its position taken in the JCET Proceedings was a mistake and that aging tests that were carried out on the Miners would have weeded out the kinds of defects that were found in some of the JCET chips, i.e. cracks in the substrate of the chips. The aging test is a kind of “stress test” (2 hours in duration) conducted by the Respondent on the finished Miners. They are conducted by the factories of the sub-contractors (the Respondent does not manufacture the Miners by themselves)⁶⁸.
147. The Tribunal does not doubt that aging tests had been conducted by the factories on the Miners. However, the Tribunal does not have direct and persuasive evidence that the aging test were effective in weeding out the issues with the defective chips.
148. Dr. Chen’s evidence must be examined in context. It is not in dispute that Dr. Chen had never been present at any of these aging tests, nor had he been provided with the data from the aging tests, let alone analyzed such data. Thus, his statement that “by the aging process we could have quickly found it [hidden cracks or delaminations]” appears to the Tribunal to be too presumptuous and has to be squared against the Respondent’s stance in the JCET Proceedings. The latter clearly carries greater weight.
- (5) Whether the fact that the Claimants had not pleaded the quantity of defective Miners would affect the Claimants’ case on liability**
149. This is a contested issue.
150. The Respondent’s case is that the fact that the quantity of Miners that were allegedly defective is simply unknown, is fatal to the Claimants’ case. In a transaction of this nature, the fact that some of the Miners in question are “defective” is hardly surprising given the large numbers of machines involved. It is therefore all the more important for the correct numbers to be pleaded and substantiated.
151. The Claimants submitted that on the basis that the Respondent delivered only 121.27 PH/s under the Agreements, the exact number of defective Miners is completely irrelevant to

⁶⁸ See Transcript D4/39:12-19; D4/43:18-21

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either issue of liability or quantum. The Claimants noted that the Agreements provided for the sale of a stipulated amount of hash rate, not a stipulated number of miners.

152. The Claimants disputed the Respondent's assertion that there was no evidence on the quantity of defective Miners. The contemporaneous WeChat records showed that (i) as of August and September 2018, there were around 2,000 defective Miners;⁶⁹ (ii) as of 15.1.2019, the number increased to 3,000;⁷⁰ and (iii) as of 25.1.2019, there were "over 5000 broken machines".⁷¹ Innosilicon itself confirmed the veracity of these numbers by adducing such records in the JCET Action as evidence of its loss.⁷² Whilst these numbers are not exact, it is incorrect for Innosilicon to assert that no evidence on the quantity of defective Miners has been adduced.
153. Lastly, the Claimants contended that the Respondent's submission that information as to the actual number of Miners being in operation was unavailable in this arbitration did not support any adverse inference that the Claimants failed to put all the working Miners online. The Claimants' witnesses had made clear that such data were unavailable by reason that the Slush Pool Data only record the number of "workers", which did not necessarily equate to the number of working miners, and "offline workers", and which in turn did not necessarily equate the number of malfunctioning miners.⁷³ Multiple miners could, for instance, be assigned to one "worker". In other words, the number of workers did not necessarily inform the number of Miners, and that the Claimants could retrieve data as to the former does not mean that data as to the latter are available. Without even showing that the latter data are in fact available to the Claimants, no adverse inference can properly be drawn: *Ip Man Shan Henry v Ching Hing Construction Co Ltd (No 2)* [2013] 1 HKC 256 (Exhibit CL-96) at §155(a).
154. The Tribunal is of the view that on this issue, different considerations apply to liability and quantum. On the issue of liability, the Tribunal is of the view that the unavailability of evidence regarding exactly how many Miners were defective is not fatal to the Claimants' case on liability. The Tribunal's reasons for coming to this conclusion are that (i) there was contemporaneous evidence, in the form of email correspondence between the Respondent and JCET regarding defects in the chips; (ii) the Respondent relied on the demand letter sent by the Claimants to them in its lawsuit against JCET; (iii) the position taken by the Respondent in the JCET Proceedings was that the Claimants' complaints regarding the JCET Miners were valid and the Respondent looked to JCET for compensation. The Respondent did in fact request for compensation in the sum of USD 25 million from JCET.
155. For all those reasons and in the light of the analysis below, the Tribunal is persuaded that the issue of liability on the part of the Respondent has been established by the Claimants.
156. On the issue of quantum, the Tribunal will analyze this issue below at paras.274 - 281.

⁶⁹ See Merit Hearing Bundle [B1/19/253, 282-283].

⁷⁰ See Merit Hearing Bundle [B1/19/321].

⁷¹ See Merit Hearing Bundle [B1/19/335-336].

⁷² See Exhibit C-33 at [B1/17/92]; Exhibit C-83 [B2/51/678, 687].

⁷³ Alec Chen CROSS-EXAMINATION [D1/132:7-133:4]; EIC of Ben Mejia [D2/6:18-7:14].

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VII. ISSUE 2: WHETHER THE RESPONDENT BREACHED THE AGREEMENTS BY DELIVERING ALLEGEDLY INHERENTLY DEFECTIVE POWER SUPPLY UNITS (“PSUs”)

157. The Claimants submitted that while the PSUs were not the main problem encountered by the Claimants and whilst the Miners continued to under-perform even after the Respondent sent new PSUs to Canada, the problems with the PSUs in fact delayed the Claimants’ ability to get the Miners online and consequential damages in lost Bitcoin.
158. There is no dispute that 2,016 pieces of defective PSUs were delivered to the Claimants in that (i) on multiple occasions, Respondent admitted that they were defective in its contemporaneous communications with the Claimants;⁷⁴ (ii) even on Alex Ao’s own evidence, the supplier of the PSUs (namely, Gospower) “*admitted that they had committed a mistake*” in respect of the compatibility of the PSUs in Canada;⁷⁵ and (iii) the defects were not resolved until 31.7.2018 (i.e. more than 2 months after the contractual deadline).⁷⁶
159. The Respondent’s submission is that the Claimants had not pleaded any particulars of the breach of the PSUs and had not pleaded any loss or damage arising from such breach.
160. The Tribunal notes that the Agreements provided for the sale of Miners and PSUs in Appendix A: “...for the T1 Miners sold pursuant to the present contract, Seller will deliver at the same time it makes available the Batch 1 Miners a sufficient number of 1600W PSUs at a cost to Buyer of \$100 US per PSU.” Section 1 of the Agreement states: “The Sellers have sold and the Buyers have bought on CIP ShenZhen China or CIP Hong Kong basis products of the types, in the quantity, and at the prices specified in Appendices, which are integral part of the present Contract.” The PSUs clearly constituted the goods bought and sold under the Agreements and Section 5 (Quality of the Goods) clearly applies to the PSUs.
161. To the extent there are defects in the 2,016 PSUs, that is clearly a breach by the Respondent. The Tribunal also finds that the defects would have caused a delay in the ability of the Claimants to put all the Miners online, as the Miners cannot operate without the PSUs.
162. The Hong Kong Sale of Goods Ordinance, Cap. 26 (“SOGO”) applies to the Agreements because the governing law of the Agreements is Hong Kong law. On this, there is no dispute between the parties⁷⁷.
163. The relevant provisions of SOGO as applicable to the dispute are:

Section 15 – Sale by description

“(1) Where there is a contract for the sale of goods by description, there is an implied condition that the goods shall correspond with the description; and if the sale by sample, as well as by

⁷⁴ See Exhibit C-48 at [B1/19/224, 227-220, 270, 281].

⁷⁵ Alex Ao WS at §48(1)-(4) [A1/13/321-322].

⁷⁶ See Exhibit C-48 at [B1/19/231, 239].

⁷⁷ See Respondent’s Closing Submissions - para. 38.

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description, it is not sufficient that the bulk of the goods corresponds with the sample if the goods do not also correspond with the description.”

Section 16 – Implied undertakings as to quality or fitness

“(2) Where the seller sells goods in the course of a business, there is an implied condition that the goods supplied under the contract are of merchantable quality, except that there is no such condition –

- (a) as regards defects specifically drawn to the buyer’s attention before the contract is made; or
- (b) ...
- (c) ...

(3) Where the seller sells goods in the course of a business and the buyer, expressly or by implication, makes known to the seller any particular purpose for which the goods are being bought, there is an implied condition that the goods supplied under the contract are reasonably fit for that purpose, whether or not that is a purpose for which such goods are commonly supplied, except where the circumstances show that the buyer does not rely, or that it is unreasonable for him to rely, on the seller’s skill or judgment.”

Section 2 – Interpretation

“(5) Goods of any kind are of merchantable quality within the meaning of [SOGO] if they are –

- (a) as fit for the purpose or purposes for which goods of that kind are commonly bought;
- (b) of such standard of appearance and finish
- (c) as free from defects (including minor defects);
- (d) as safe; and
- (e) as durable,

as it is reasonable to expect having regard to any description applied to them, the price (if relevant) and all the other relevant circumstances; and any reference in this Ordinance to unmerchantable goods shall be construed accordingly.”

- 164. The Claimants rely on the aforesaid provisions in SOGO and say that, insofar as section 15(1) of SOGO is concerned, the Miners and related equipment shall correspond with the description set out in Appendix A to the Agreements.
- 165. In response, the Respondent deny that they had breached any implied conditions arising from SOGO.
- 166. The Respondent’s case is essentially premised on the claim that the Claimants had not specified the number of miners that were allegedly malfunctioning or defective or the

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number of hash boards that were allegedly defective. Further, the Respondent submitted that there was no direct evidence to support the Claimants' claim of alleged inherent defects of the Miners or the hash boards or missing hash boards.

167. Based on the pleadings filed by the Parties, there is no dispute that the aforesaid provisions of SOGO apply to imply terms of merchantable quality and fitness for purpose into the Agreements. There is no doubt that the Respondent was selling the Miners to the Claimants in the course of a business and the Claimants had made known to the Respondent the purpose for which those Miners were to be used, i.e. for mining Bitcoins. The issue of whether the Respondent had delivered defective Miners and PSUs (and thereby breached those implied terms) is very much dependent on the evidence adduced by the Claimants regarding the alleged underperformance of the Miners and whether the Claimants' burden of proof has been discharged. For the reasons given by the Tribunal in paragraphs 162 - 166, the Tribunal concludes that those terms have been breached by the Respondent in that the Miners were not of merchantable quality, as they were unfit for purpose, defective and not durable.

VIII. ISSUE 3: WHETHER THE RESPONDENT BREACHED SECTIONS 2 AND 4 OF THE AGREEMENTS BY FAILING TO DELIVER THE CONTRACTED-FOR MINERS AND PSUs BEFORE 25 MAY 2018 AND WHETHER THE CLAIMANTS ARE ESTOPPED FROM ALLEGING SUCH BREACH

168. It is an agreed fact between the Parties that, of the 17,227 Miners delivered by the Respondent, over 80% of them had been delivered before the contractually stipulated deadline of 25 May 2018 and that the remaining issue is whether the remaining 17% (or 3,288 Miners) were delivered late⁷⁸.
169. The issue in contention is whether the Claimants are estopped from alleging a breach against the Respondent for the delivery made after 25 May 2018.
170. The Respondent submitted that an estoppel applies, by relying on WeChat messages between Alec Chen and Robin Jia between 9 May 2018 and 8 June 2018.
171. The Respondent further submitted that even by 8 June 2018 (when the contractual deadline had passed), Alec Chen did not once complain about late delivery but instead continued to liaise with Robin Jia on how or when the remaining Miners would be delivered.
172. The Claimants submitted that the messages upon which the Respondent relies should be interpreted differently from what the Respondent had contended: that in fact, they concerned the Claimants' complaint that the Respondent did not provide sufficient notice

⁷⁸ See Respondent's Opening §39: the delivery records in Exhibit R-23 [B3/123/1150] show that, between 28 December 2017 and 27 September 2018, 19,843 Miners were delivered to the Claimants (consisting of 17,227 T1 and 2,616 T2). The T2 miners are not the subject matter of the Agreements in this arbitration and hence excluded.

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for delivery of the Miners and the PSUs, which was a minimum of 7 days' notice under Section 4.2 of the Agreements.

173. In particular, the following excerpts from the WeChat messages from Alec Chen:

"It's very hard right now as you give us 2 days notice. It's not a lot of time to organize international logistics."

"Yes, we cannot book the flights fast enough as there is little notice. Our shipping company can only hold the shipments for a few days so it's causing some issues."

174. The Tribunal notes that Section 2 of the Agreement provides:

"Seller shall use commercially reasonable efforts to have the T1 Miners available for Buyer by April 15, 2018 and in the event that T1 Miners are not available by May 15, 2018, Seller shall, upon Buyer's request, promptly refund the purchase price for any T1 Miners not received by Buyer."

175. In other words, there is a legal consequence to the Respondent should the Miners not be made available (or delivered) to the Claimants by May 2018, in that the Respondent may potentially have to refund the purchase price for those undelivered Miners if requested to do so by the Claimants. In this case, the Claimants did not request for a refund for the Miners delivered late. However, that does not necessarily mean that there is late delivery by the Respondent constituting a breach of Section 2.

176. The Tribunal accepts that the Claimants' interpretation of the WeChat messages accords more with the provisions of Section 4.2 and commercial reality, in that the Parties were referring to the minimum 7-day notice required under the Agreements and does not accept the Respondent's argument that those messages from the Claimant amounted to an estoppel.

177. Accordingly, the Tribunal finds that the Respondent has breached Sections 2 and 4 of the Agreements and no estoppel operated against the Claimants. Arbitrator Ernest Yang finds himself unable to agree with the majority view on this Issue. His views are set out in Annex I to this Partial Final Award⁷⁹.

⁷⁹ The majority of the Tribunal notes that in Arbitrator Ernest Yang's minority opinion, he takes the position that Claimant's Alec Chen and Innosilicon personnel effectively agreed to change the delivery date in the Agreements. However, the majority notes there was no formal amendment to the agreements implementing a revised delivery schedule. As discussed below, in also dissenting on Issue 4, whether Respondent failed to perform its warranty obligation, the dissent takes the position that despite numerous instances where Respondent told Claimants it would perform its warranty obligations at Claimant's facility in Montreal, Claimants' failure to ship the Miners to Respondent, as specified in the Agreements, voided *any* responsibility by Respondent to perform the warranty. This, according to the dissent, absolves Respondent of any liability despite the significant losses incurred by Claimants due to the defective Miners furnished by Respondent. We also note that the dissent quotes Respondent's *fact* witness, Mr. Daniel Rafuse, as having given evidence "*on industry practice behind such a warranty provision [as set forth in the Agreements]*" The majority notes that, as stated above, Mr. Rafuse was a fact, not an expert witness, and there is no evidence in the record qualifying him to be an expert on industry practice. Further, as we note elsewhere, the majority found Mr. Rafuse to be an unreliable witness in general, because of his inconsistent statements on cross examination, as well as his business relationship with Respondent, which was not revealed until Mr. Rafuse was cross examined. Finally with respect to the warranty issue, Mr. Rafuse states in paragraph 13 of his witness statement "*I understand Respondent's standard warranty allows any defect of miners to be shipped back to China within a specified period of time and that the repairs will be shipped back by DHL...*" Note Mr. Rafuse does not say the

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178. In any event, the Tribunal believes that little turns on this issue because the Claimants' principal complaint is about the under-performance of the Miners. Our calculation of damages set forth below is not impacted by whether or not we determine Respondent breached the Agreements by delaying deliveries beyond the date specified in the Agreements.

IX. ISSUE 4: WHETHER THE RESPONDENT FAILED TO PERFORM ITS WARRANTY OBLIGATION UNDER SECTION 9.2 OF THE AGREEMENTS

179. Section 9 of the Agreements provides:

"9. Guarantee and Warranty

9.1 The Seller guarantees the high quality of the delivered goods and will replace defective goods notified within 5 days of delivery.

9.2 If during a 6 months warranty period the product will appear defective as a result of poor quality manufacturing and-or application of poor-quality materials (latent defects) the Seller undertakes the responsibility for replacing the defective goods if buyer's claim can be validated by the seller. Warranty is invalid if the miner is overclocked, immersed in any fluids including immersion coolant, tampered with or the warranty stickers are breached. The warranty does burnt-out hash-boards or customer error [sic]. Customer must pay for shipping of goods back to the seller for warranty servicing. The seller will pay for shipping to return services parts/machines.

9.3 The buyer is advised to obtain its transportation damage insurance for shipment."

180. The Tribunal notes that the drafting of this Section is imprecise, as is the case with the Agreements as a whole. Therefore, the Tribunal's task is to interpret the Agreement to give effect to the intention of the Parties in as commercial a manner as possible.
181. The Claimants rely on the principles of contractual interpretation which are set out at its Reply §64:

*"**First**, the interpretation exercise is to ascertain the objective meaning of the language which the parties have chosen in which to express their agreement. The starting point is the ordinary and natural meaning of the words of the contract: **Eminent Investments (Asia Pacific) Ltd v DIO Corp** (2020) 23 HKCFAR 487 (CFA) at ¶43 (Ribeiro PJ and Lord Collins of Mapesbury NPJ).*

***Second**, where there are conflicting interpretations, account should be taken of (i) the natural and ordinary meaning of the provision in question, (ii) the purpose of the contract and of the provision, (iii) other relevant provisions, (iv) the facts and circumstances known*

warranty provision "requires" defective miners to be shipped back to China but rather says the warranty "allows" such shipment [A1/16/352].

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or assumed by the parties at the time that the contract was executed, (v) the quality of the drafting of the instrument, and (vi) commercial common sense: **Eminent** (*supra*) at ¶44.

Third, a party's preferred construction is unviable absent actual words capable of supporting it: **National Commercial Bank Jamaica Ltd v Guyana Refrigerators Ltd** [1998] 4 LRD 36 (Privy Council) at 40d-e (Lord Steyn).

Fourth, the reasonableness of the result of any particular interpretation is a relevant consideration in choosing between rival interpretations. Unless the contrary appears, the Tribunal assumes that the parties to a commercial document intended to produce a commercial result: **Lewison on the Interpretation of Contracts** (7th edn; 2021) at ¶7.161 *et seq.*

Fifth, interpretation is a unitary exercise involving an iterative process by which each suggested interpretation is checked against the provisions of the contract and its commercial consequences are investigated. It does not matter whether the more detailed analysis commences with the factual background and the implications of rival constructions or a close examination of the relevant language in the contract, so long as the court balances the indications given by each: **Eminent** (*supra*) at ¶¶44, 45(a)." (Emphasis in the original)

182. The Respondent's submission is that its warranty obligation only arises if and when the Claimants deliver the allegedly defective Miners back to the Respondent for the alleged defects to be validated in accordance with the terms of Section 9.2. The Respondent have also submitted that "*shipping any allegedly problematic miners back to the Respondent for repair is the first step to kickstart the repair process and is a condition precedent for the Respondent's obligation to repair under Clause 9.2 of the Agreements*" – paragraph 46 of the Defence [A1/4/66]. However the majority of the Tribunal finds no support for this position in the record.
183. There is a dispute between the Parties over what amounts to "validation" in Section 9.2 of the Agreements and whether any particular step (i.e. shipping the defective goods back to the Respondent) has to be taken before validation takes place. The Claimants contend that the actual language of Section 9.2 does not specify any mode of validation and the sentence "[c]ustomer must pay for shipping of goods back to the seller for warranty servicing" and Section 9.3 do not assist the Respondent's argument.
184. The evidence in this case shows that the Claimants had brought the problems and defects of the Miners to the notice of the Respondent and the Respondent was fully aware of the same and had even confirmed the cause of the defects. The day after Leon Liu visited the Montreal Farm to inspect the Miners (i.e. 19 January 2019), Alex Ao told the Claimants "*we understand the situation and negotiate with some contractors to do the job. Stay tune (sic)!*". This message also comes on the heels of a long list of WeChat messages where the Respondent informed the Claimants that they would send a repair team to Canada to fix the problems with the Miners. See paras. 188 - 195.
185. The Respondent's contention is also not supported by the fact that despite being told on many occasions about the problems with the Miners, the Respondent did not insist on or even suggest that the Claimants ship the allegedly defective Miners back to China for the

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Respondent to validate⁸⁰. Instead, the Claimants were told by the Respondent on multiple occasions to await a team that the Respondent would send to Montreal to remedy the problems. However, after a few false starts (due to visa related issues), that did not materialize until 19 January 2019 when Leon Liu visited the Montreal farm to inspect the Miners and take photographs.

186. The oral evidence of Alec Chen and Daniel Rafuse during cross-examination, upon which the Respondent relies, does not assist the Tribunal. Ultimately, this issue is a one of contractual interpretation and the Tribunal must be the judge of that.
187. The Tribunal finds that, as a matter of contractual interpretation under Hong Kong law, the warranty provided by the Respondent under the Agreements was engaged during the 6-month warranty period once the defects were validated by the Respondent through their being informed by the Claimants and the Respondent's own admission that defects existed (refer to Robin Jia's evidence and Ada Xiao's WeChat message). Validation of the defects did in fact occur when the Respondent was made aware, on several occasions starting on 21 August 2018⁸¹, by the Claimants and Respondent repeatedly suggested it would send personnel to the Montreal farm to remedy the problems. There was no requirement for the defective miners to be shipped back to the Respondent before validation can take place. Further, the Tribunal is of the view that the two sentences in Section 9.2, "*Customer must pay for shipping of goods back to the seller for warranty servicing. The seller will pay for shipping to return services parts/machines.*" Do not mean that the warranty can only be engaged when shipping of the goods back to the seller in fact takes place. If the parties had agreed to an alternative form of arrangement for the warranty servicing or repairs to be carried out – as in this case – that will render the shipping back otiose and it would not make commercial sense to insist that the only way to engage the warranty obligation is to ship the good backs to China or elsewhere. The words "must" and "will" do not rule out any other method effectively agreed between the parties for warranty servicing (other than shipment back). They only mean that where shipping back the goods is the only possible arrangement, the responsibility to pay the shipping charges is that of the buyer. In the same vein, where shipping back the goods is the only possible arrangement, then after servicing is carried out, the responsibility for paying the return shipping charges falls on the seller.⁸²

⁸⁰ At an early point in the discussions re warranty issues, Alec Chen asked Ada Xiao of Innosilicon "How do you want to handle broken miners under warranty." Ada replied ... "I think we will send guys to help you take out the broken hashboard and put good boards together. Meanwhile we are setting up a repair center in Canada. Let's see if we need to ship the broken ones back or we can get them repaired in Canada." See Exhibit C-48 [B1/19/153-154]

⁸¹ See Merit Hearing Bundle [A1/5/89-91]

⁸² The dissent takes the view that since Claimants did not ship the defective miners back to Respondent, Respondent is absolved of any responsibility for Claimants' losses. For the reasons stated above, the majority disagrees. The majority further believes that such a position is unreasonable and lacks business common sense. See *Lewison* [C-70 ¶7.16], et seq "The reasonableness of the result of any particular interpretation is a relevant consideration in choosing between rival interpretations... if the language is open to two constructions, that would be preferred which will avoid consequences which appear to be capricious, unreasonable, inconvenient or unjust even though the construction adopted is not the most obvious or the most grammatically accurate... Clearly this is allied to the attitude of the court in discerning for attempting to discern) the commercial purpose of a particular transaction and construing the contract in light of that commercial purpose... if detailed semantic and syntactical analysis of words in a commercial contract is going to lead to a conclusion that floats business common sense, it must be made to yield to business common sense... modern principles of construction require the court to have regard to the commercial background, the context of the contract and the circumstances of the parties, and to consider whether, against that background and in that context, to give words a particular or restricted meaning would lead to an apparently unreasonable and unfair result." (citations omitted). The

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188. The next issue is whether the Claimants are entitled to invoke “*the Prevention Principle*” in rebutting the Respondent’s submission that the warranty was not engaged.
189. The Prevention Principle is explained in the decision of the Hong Kong Court in *Kensland Realty Ltd v. Whale View Investment Ltd & Another* [2002] 1 HKLRD 87 as having two essential components:
- (1) It is necessary to show that the relevant party’s “wrong” involves his breach of the contract in respect of an obligation owed to the other party;
 - (2) It is necessary to show that the contractual rights or benefits which the party in question is seeking to assert or claim arise as a direct consequence of that party’s prior breach.
190. The Claimants’ case on the Prevention Principle is predicated upon the Respondent’s breach of an implied term that it would cooperate with the Claimants under Section 9.2, which breach was committed when Respondent repeatedly prevented the Claimants from shipping back the Miners – either by proposing on-site repairs in Canada and/or that replacement parts or miners be sent to the Claimants. The Claimants say that the Respondent has no answer to this analysis.
191. The Respondent, on the other hand, submitted that in so far as the Claimants are contending that they had been “prevented by the Respondent’s act of offering to repair the miners on-site from shipping the mines back to the Respondent, the Respondent’s act of offering to repair the miners on-site for the Claimants could not constitute (and is not alleged to constitute) a breach of the Agreements.
192. Next, the Respondent submitted that the Claimants’ witnesses, Alec Chen and Ben Mejia, had accepted that the Respondent did ask the Claimants to ship the defective miners back to the Respondent. The Tribunal does not think that there is much dispute that for a brief period, the parties did discuss the possibility of having the defective miners shipped back to the Respondent. However, the Respondent later stated on multiple occasions that they would send a team to Montreal to carry out on-site repairs, as is evidenced in the WeChat messages exchanged below between the Parties:

Date	WeChat Messages	Hearing Bundle References
21-Aug-18	Alec Chen: “@AdaX How do you want to handle broken miners under warranty? We have about 2000 miners that are broken. 307 have 3 board offline, and 1076 that have 1 board offline. And about 100 that we are not sure what the error is, but they are not working.” Ada Xiao: “I will ask internally and get back. I think we will send guys to help you take out the broken hasboard and put good boards together. Meanwhile, we are setting up a repair center in	[B1/19/253]

majority believes that adopting the view of the dissent, in light of the circumstances and behavior of the parties would lead to just such an unreasonable and unfair result.

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	<i>Canada. Let's see if we need to ship the broken ones back or we can get them repaired in Canada."</i>	
22-Aug-18	Alec Chen asked Ada Xiao <i>"Where in Canada are you setting up a repair center?"</i> and <i>"any updates?"</i> Ada Xiao replied <i>"Alex is contacting the workers to help repair."</i>	[B1/19/253-254]
31-Aug-18	Alec Chen asked Innosilicon about on-site repair. Alex Ao told Claimants <i>"We are going to send 3-4 people to do the job."</i>	[B1/19/260, 263]
27-Sep-18	Tommy Xia claimed that Innosilicon would send repair staff to Blockstream's mining farm <i>"after next week."</i> Alec Chen suggested that <i>"It would probably be best to send new hashboards to our location, and then send the broken hashboards back to your warehouse so you can fix on your time."</i> Ada Xiao said she would brief Innosilicon's repair manager about the situation.	[B1/19/281-282]
30-Sep-18	Innosilicon's repair manager (by the name of Eric) said <i>"[o]ur worker will go to your warehouse and tell you how to recognize the fault part and how to maintenance [sic] the miner. We will try to arrange the visit asap"</i> . Tommy Xia said <i>"Our team just go over and plan how to solution [sic] the problem with miner easier, better, and quickly"</i>	[B1/19/254-285]
8-Oct-18	Eric said <i>"we will send boards or send the repair engineer to u after the diagnose. So could u please help provide the [hotel] and foods for Xia's team"</i>	[B1/19/288]
11-Oct-18	Eric said <i>"Xia told me they will arrange 2 guys and they are ready now"</i>	[B1/19/290]
19-Oct-18	After Claimants booked a hotel room and arranged for food to be delivered to the warehouse, Tommy Xia claimed that Innosilicon's repair staff were <i>"[m]aybe 20 minutes away"</i> ; then: <i>"They [are] waiting in the border."</i> ; then: <i>"Maybe I think we have the wrong . . . address of job site."</i> ; and then, finally: <i>"Can you cancel the order of hotel? . . . They are refused to go into Canada because the custom[s] suspected that they wanted to work in Canada without a work permit."</i>	[B1/19/290-299]
8-Nov-18	Tommy Xia said <i>"We plan to go to your place around on November 13 or 14."</i>	[B1/19/300]
28-Nov-18	Tommy Xia said <i>"We will keep contact with Xia and arrange them visit your warehouse asap."</i>	[B1/19/302]
11-Dec-18	Eric said <i>"Unfortunately [Innosilicon's] repair engineer can't visit your warehouse due to USA restricted visa policy."</i>	[B1/19/307]

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24-Dec-18	Alex Ao said “we can arrange some people go there before the end of the year” and “we have people ready, let me know what will be the good time for your farm.”	[B1/19/308-309]
9-Jan-19	Alex Ao said “no matter what we will send people to your place next week. I need [to] give them some training.”	[B1/19/312]
14-Jan-19	Alex Ao said “we need to get access to the management server so that we can identify the faulty hash board or control board, so that we can regroup miners and send you the backup boards”	[B1/19/315]
15-Jan-19	Alec Chan: “@Leon are you 100% coming on Friday? What time are you planning on arriving?” Alex Ao: “@alec chen do you mind our people work in the weekend? they have to work continuously [sic] for a few days.” Alec Chan: “They can work on the weekend. Are they only going to be there for a few days? As we have 3000 broken miners that need support” Alex Ao said “their goal is not fixing them on site, but to understand the situation and identify those problems, the we would know the best solution. 3000 broken miners is a big trouble. We have to prepare for it.”	[B1/19/321-323]
19-Jan-19	Innosilicon's Leon Liu visited the Montcal site. He took some photos of the site and sent it to the WeChat group including himself, Ben Mejia, Alec Chen, and Alex Ao.	[B1/19/331]
20-Jan-19	Ben Mejia asked for updates on repair. Alex Ao said “we understand the situation and negotiate with some contractors to do the job. Stay tune!”	[B1/19/332]
25-Jan-19	Alec Chen: “@naturenow @Leon any updates? When are you going to talk with your contractors and fix our machines?” Leon Liu: “@alec chen let me double check.” Alec Chen: “ok - we need these issues fixed asap and havent heard any updates this week yet.”	[B1/19/334]
25-Jan-19	Chris Cook: “@naturenow also it sounds like you are shipping miners to montreal? And that there are only 600. We have over 5000 broken machines, what are we doing to do about the rest.” Alex Ao: “I heard 3000 miners had issue, but it becomes 3000 now?” Chris Cook “That is just in montreal, we have another 2000 or so at another location that are also bad. The other 2000 or so have strange problems. They won't even boot. We have swapped control boards, and did not fix.” ...	[B1/19/335-336]
29-Jan-19	Alec Chen asked for updates on repair. Alex Ao said “those guys think they can get the job done in 7 days but you guys can check their progress in the first 3 days”	[B1/19/338]

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17-Apr-19	Chris Cook asked “do you want us to ship raw boards or make miners with 3 bad boards?” and “How long will it take to turn these around and have good miners shipped back? If we’re sending via sea freight, it’s going to take 30 days just to get to China. Can we get replacements shipped to us before you receive the shipment?” Gordon Ao said “Replacement need to be acquired and tests before shipping” and Alex Ao suggested “should we get some technical from manufacturer to Montreal to evaluate the situation of those boards”	[B2/53/715-716]
17-Apr-19	Chris Cook asked Alex Ao “what is going on with getting these miners? We have finished testing everything we have and here are over 5000 miners that have all the hash boards dead.” Alex Ao responded “we have informed Daniel to release those miners to your farm” and “let me contact him again”.	[B2/53/714]
20-Apr-19	Samson Mow said “So there’s still the problem of 15k hashboards. Can we ship them back to you while you ship us new ones?” Alex Ao said “we will send some guys to see how to repair them”	[B2/53/717]

193. Taking all the circumstances together, especially the WeChat messages exchanged by the Parties, it is clear that the Parties had come to an understanding that the Respondent would send a team on-site to perform warranty servicing. That being the case, there is no need for the Tribunal to consider or apply the Prevention Principle on the facts.
194. As stated above, the Respondent made a few aborted attempts to send a team to Montreal (on one occasion, alleged visa and/or work permit issues caused the team to be unable to enter Canada) and eventually, only Leon Liu made it to the Montreal Farm. At one stage, the Respondent even made the proposal that their associate, Daniel Rafuse, would deliver 600 miners to replace the defective ones. However, that too failed to materialize. In this regard, the Tribunal considers the evidence of Mr. Rafuse to be unhelpful to the Respondent, as it was clear that Mr. Rafuse was in fact seeking to sell non-Innosilicon miners to the Claimants, although it had been represented to the Claimants that Mr. Rafuse was going to replace the defective miners with 600 Innosilion miners which were working.

Date	WeChat Messages	Hearing Bundle References
28-Feb-19	Alex Ao stated that Innosilicon had “already shipped 600 miners to Canada” – a reference to the miners that its business partner Daniel Rafuse could provide to Claimants.	[B2/53/710]

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23-Mar-19	Adam Back asked Gordon Ao to “agree to release 600 miners in Montreal without shipping charge”. Gordon Ao answered “Ok, we will”.	[B2/53/712]
25-Mar-19	Chris Cook asked “how can we get the 600 miners?” Alex Ao said “I will contact the storage place tonight”	[B2/53/714]
26-Mar-19	Chris Cook asked for updates and “can we arrange picking those miners next week?” Alex Ao said “yes, I will arrange Daniel [Rafuse] to contact the farm”.	[B2/53/714]
17-Apr-19	Chris Cook asked “do you want us to ship raw boards or make miners with 3 bad boards?” and “How long will it take to turn these around and have good miners shipped back? If we’re sending via sea freight, it’s going to take 30 days just to get to China. Can we get replacements shipped to us before you receive the shipment?” Gordon Ao said “Replacement need to be acquired and tests before shipping” and Alex Ao suggested “should we get some technical from manufacturer to Montreal to evaluate the situation of those boards”	[B2/53/715-716]
17-Apr-19	Chris Cook asked Alex Ao “what is going on with getting these miners? We have finished testing everything we have and here are over 5000 miners that have all the hash boards dead.” Alex Ao responded “we have informed Daniel to release those miners to your farm” and “let me contact him again”.	[B2/53/714]
20-Apr-19	Samson Mow said “So there’s still the problem of 15k hashboards. Can we ship them back to you while you ship us new ones?” Alex Ao said “we will send some guys to see how to repair them”	[B2/53/717]
22-Apr-19	Alec Chen, who was put in charge of coordinating the delivery of the minds from Mr. Rafuse asked “@Daniel Rafuse what do you need from us?” Daniel Rafuse asked for the address of the Montreal farm, which Alec provided, and confirmed that Blockstream would exchange “600 broken ones for 600 working ones.”	[B2/55/719-720]
24-Apr-19	Alec Chen said Claimants would box up 600 broken miners by Wednesday to exchange for 600 working ones. Daniel Rafuse said “Yes thats perfect. I will have transport details tomor[r]ow”.	[B2/55/721]
26-Apr-19	Alec Chen chased for updates on the transport details. Daniel Rafuse said “I am waiting to organize from my warehouse. So i will confirm a date shortly”.	[B2/55/721]
1-May-19	Alec Chen chased for updates. Daniel Rafuse said “My warehouse owner is out of town until next week apologies”.	[B2/55/722]
2-May-19	Alec Chen asked “What day did your Warehouse owner get back?” Daniel Rafuse said “He is not answering his phone. He is in costa rica not sure when he returns”.	[B2/55/722]

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6-May-19	Alec Chen chased for updates. Daniel Rafuse said <i>“Apparently he returns Friday so I can access the website.”</i>	[B2/55/722]
9-May-19	Alec Chen repeatedly chased for updates. Daniel Rafuse said <i>“Hey alec the warehouse guy returns late next week”</i>	[B2/55/723]
20-May-19	Alec Chen repeatedly chased for updates. Daniel Rafuse said <i>“Hi Alec! I am on family holiday I return in two weeks and the warehouse guy will be there at same time so we can get the miner transfer issue squared away”</i> .	[B2/55/723-724]
11-Jun-19	Alec Chen repeatedly chased for updates. Alex Ao said <i>“@alec chen really sorry for the delay! we're having trouble with the storage place who is trying to hold our miners and do mining for its benefit. we have hired a law firm to sue the guy. the lawyer has come up with some solution to get those miners for us”</i> .	[B2/55/724]
13-Aug-19	Alec Chen chased for updates. Daniel Rafuse said <i>“@alec chen we had a court hearing to obtain the t1 miners but the judge asked to push the date back. We are going to court again within 10 days so hopefully we will have good news soon”</i> .	[B2/55/724]
9-Sep-19	Alec Chen repeatedly chased for updates. Daniel Rafuse said <i>“the court [hearing] to release the miners will be . . . hear[d] last week of [S]eptember”</i> .	[B2/55/731]
15-Oct-19	Alec Chen chased for updates. Daniel Rafuse said <i>“after months of delay from the court the hearing against the warehouse company will be heard monday if all goes well we can have the replacement miners available by mid week next week”</i>	[B2/55/733]
19-Nov-19	Daniel Rafuse said <i>“we have about 300 functioning t1 hashboards ... ready now”</i>	[B2/55/734]
21-Nov-19	Daniel Rafuse said <i>“there is 89 pieces at 130 usd can be delivered [on 21 Nov 2019] by 4pm”</i> . Alec Chen responded <i>“Wait what? What is \$130 usd? the delivery price.”</i> Daniel Rafuse answered <i>“No the price per unit delivery included”</i> and said he <i>“got these from another source independent of innosilicon”</i> . He also said he did not have the replacement miners as originally promised by Innosilicon. Alec Chen then contacted Alex Ao: <i>“Remember that you were going to send over 600 T2s originals to exchange for broken ones. This exchange was not for a purchase. It was for Inno to reconcile a small portion of the big disparity between what we ordered and the actual amount of working miners that came out of what was delivered. [Alex Ao] is this serious?”</i> Alex Ao did not respond. Instead, Daniel Rafuse responded directly to Alec Chen <i>“This is not to do with alex. I just understood you needed working miners but i understand your frustration.”</i>	[B2/55/736-737]

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22-Nov-19	Daniel Rafuse asked whether Claimants wanted to purchase the 89 non-Innosilicon miners. Alec Chen said “ <i>we will only accept product to replace the broken product as was originally discussed</i> ”.	[B2/55/738]
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195. The analysis, findings and decisions set out above are those of the majority of the Members of the Tribunal. Arbitrator Ernest Yang takes a different view. His views are also set out in Annex I to this Partial Final Award.

X. ISSUE 5: WHETHER THE RESPONDENT IS LIABLE FOR THE CLAIMANTS’ CONSEQUENTIAL LOSSES PART I – LOSS OF BITCOINS

196. The Tribunal has determined that the Claimants have succeeded on the issues above. Therefore, it shall proceed to consider, in this section, the issue of quantum of damages.

197. The Claimants’ claim is structured in 3 parts:

- (1) Consequential damages Part I – Loss of Bitcoins
- (2) Consequential damages Part II – Loss of hosting service fees
- (3) As an alternative to Consequential Damages, Direct damages⁸³

198. The Claimants’ primary claim is for damages in respect of the Claimants’ loss of Bitcoins which they would have mined between 26 May 2018 (the day following the contractual date of delivery) and 25 May 2021 (the date when the lifespan of the Miners would have come to an end⁸⁴) (“**Relevant Period**”), if the Miners and PSUs were of contractual quality.

199. The Claimants’ case is that had the Miners met the contractually agreed hash rate specification, the Claimants would have mined an additional 2,331.7 Bitcoins (“**Lost Bitcoins**”).

200. Secondly, the 1st Claimant ought to be compensated for lost hosting service fees less the incremental electricity cost for hosting.

201. The Claimants particularize their claim in monetary terms as follows:

- (i) Damages in the sum of the market value of the Lost Bitcoins as of the date of the Award; *plus*

⁸³ The majority notes that there is no limitation of liability provision in any of the Agreements.

⁸⁴ The Parties agreed that the lifespan of the Miners is 3 years: Witness Statement of Alec Chen [A1/12/297]; Witness Statement of Ao Gang (Alex Ao) A1/13/332].

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- (ii) USD 6,169,975 in lost hosting fees for the 1st Claimant (as quantified in Greig Taylor’s reports); *minus*
 - (iii) Incremental electricity costs of USD 16,266,011 and USD 397,943 for the 2nd Claimant and 3rd Claimant.
202. In support of their claim, the Claimants adduced the expert reports of Greig Taylor, the Managing Director of Alix Partners LLP in New York City. Mr. Taylor is a Fellow of the Institute of Chartered Accountants of England and Wales. His professional history and professional experience are set out in Appendix 1 of his 1st report⁸⁵.
203. Mr. Taylor submitted two reports in this arbitration, the First Taylor Report which is dated 23 September and the Second Taylor Report which is dated 17 April 2023⁸⁶.
204. Mr. Taylor had been instructed to calculate the Claimants’ consequential losses under the framework of expectation losses.
205. The Claimants’ expectation losses are comprised of:
- i. The losses that are related to the Bitcoin mining activities from BTC Miners purchased by the Claimants;
 - ii. The losses to 1st Claimant that are related to its hosting service contracts with the BTC Miners purchased by the 2nd and 3rd Claimants.
206. The losses related to Bitcoin mining activities from BTC Miners purchased by Claimants are calculated by Mr. Taylor as:
- i. The current market value of the Bitcoins that *would have been* mined from the Batch 2 Contract BTC Miners net of the incremental cost required to mine the Bitcoins, in accordance with the contracted hash rate performance, in excess of,
 - ii. The current market value of the Bitcoins that were *actually* mined from the Batch 2⁸⁶ Contract BTC Miners net of the incremental cost required to mine the Bitcoins, based on the actual delivered hash rate performance.
207. In Figure 1, para 2.3 of the First Taylor Report, the damages appear thus:

Bitcoin Mining Loses (US\$)

BTC Miners	But-for Market Value	Actual Market Value	Damages
Blockstream	20,355,003	7,949,391	12,405,612
Thigmotropism	28,631,983	11,182,841	17,449,142

⁸⁵ See Merit Hearing Bundle [A2/23/456-492]

⁸⁶ “Batch 2” refers to the batch of Miners sold under the Agreements in this arbitration. Please see Partial Award on Jurisdiction §58.

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Mr. Back	1,745,642	871,543	874,099
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208. In the Second Taylor Report, he updated the Bitcoin Mining Losses as follows:

Updated Bitcoin Mining Losses (US\$)

BTC Miners	But-for Market Value	Actual Market Value	Damages
Blockstream	28,545,386	12,249,123	16,296,263
Thigmotropism	58,154,094	21,094,669	37,059,425
Mr. Back	3,193,214	1,606,342	1,586,872
Total	89,892,694	34,950,133	54,942,561

209. As to Hosting Business Losses, this is only claimed by the 1st Claimant. Mr. Taylor computed this as follows:

Hosting Business Losses (US\$)

Item	But-for Hosting Profits	Actual Hosting Profits	Damages
Blockstream	10,645,219	2,685,247	7,959,972

210. This amount was then updated in Mr. Taylor's Second Report as follows:

Blockstream's Hosting Business Losses (US\$)

Item	But-for Hosting Profits	Actual Hosting Profits	Damages
Blockstream	8,855,222	2,685,247	6,169,975

211. The total consequential losses claimed by the Claimants – which is the sum of Figure 1 and Figure 2, was calculated as follows in the First Taylor Report:

Summary of Consequential Losses (US\$)

BTC Miners	Bitcoin Mining	Hosting Business	Total
Blockstream	12,405,612	7,959,972	20,365,584
Thigmotropism	17,449,142	-	17,449,142
Mr. Back	874,099	-	874,099

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212. Mr. Taylor subsequently updated the amount in his Second Report, as follows:

Total Consequential Losses (US\$)

BTC Miners	Bitcoin Mining	Hosting Business	Total
Blockstream	16,296,263	6,169,975	22,466,238
Thigmotropism	37,059,425	NA	37,059,425
Mr. Back	1,586,872	NA	1,586,872
Total	54,942,561	6,169,975	61,112,536

213. The Respondent's expert witness, Dr. Chen Ang, also submitted two expert reports. Dr. Chen's first report is dated 9 December 2022 ("**the First Chen Report**") and his second report was dated 19 May 2023 ("**the Second Chen Report**"). However, unlike Mr. Taylor who is an accountant, Dr. Chen's expertise is in the fields of Metaverse technology, Blockchain, VR/AR technology, Artificial Intelligence and the Internet of Things. In particular, Dr. Chen has experience in applying these technologies to projects with industrial digital twin, blockchain, blockchain anti-counterfeiting trademarks, blockchain product traceability, meta-cosmic marketing, digital human and future community.
214. Dr. Chen said, in para 7 of his First Report, that he had been asked to assess the quality of the BTC miners in question and assess the rationality of Taylor's Report and provide his independent opinion on these matters. Dr. Chen dealt with Mr. Taylor's methodology from Section IV [A2/513] of his First Report.
215. In the First Chen Report, paras 31-33 [A2/514], Chen analyzed the number of miners delivered to the Claimants and the number of miners that the Claimants allegedly put into operation after receipt of the miners. He came to the conclusion that the number of BTC Miners in operation peaked at 11,042⁸⁷ in November 2019.
216. In the First Chen Report, Section V, Chen criticized the "faulty assumptions" in the Taylor First Report. In fact, reading para 35, it appears that there is only one main criticism, i.e. the actual hash rate is not equal to the contracted hash rate performance.
217. Dr. Chen proceeded to set out 9 reasons why he made this assessment, all in the First Chen Report, §§35(1)-(9)⁸⁸.
218. Of these, only §35(1) and 35(2) seek to rebut Mr. Taylor's methodology. From §35(3)-(9), Dr. Chen raises technical issues to justify his assessment that the Miners were not performing optimally, including issues of dust, shortage of manpower, high temperature, etc. All of these issues have been considered and dealt with by the Tribunal in the part of this Award relating to liability and need not be repeated here.

⁸⁷ However, Column V of the table at Hearing Bundle [A2/24/516] shows the number of 11109.36 as the number of miners in operation in November 2019.

⁸⁸ See Merit Hearing Bundle [A2/24/516-520]

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219. Mr. Taylor sought to rebut Dr. Chen's criticism regarding hash rates in the Second Taylor Report, §2.2. Mr. Taylor pointed out that Dr. Chen not only failed to quantify his suggested variance between the Contractual Hash Rate versus Effective Hash Rate, he also assumed such variance to be 0% in his calculation of the number of BTC Miners in operation as set out in Section IV of the Chen Report.
220. The Tribunal agrees with Mr. Taylor on this issue regarding the hash rate and rejects Dr. Chen's opinion. Dr. Chen cannot take contradictory positions on the variance between the Contractual Hash Rate versus the Effective Hash Rate. It also does not make commercial sense for the Claimants to purchase BTC Miners from the Respondent with the specified Contractual Hash Rate, but settle for a lower Effective Hash Rate when the Miners were put into operation. To the extent that there might be variance in those two rates, the Claimants are entitled to the full Contractual Hash Rate as agreed under the Agreements. What the Claimants paid for must be delivered.
221. As regards Dr. Chen's assessment of when all the non-faulty BTC Miners were put online and whether the Claimants had the capacity to put all BTC Miners online, Mr. Taylor sought to respond to this in the Second Taylor Report, §§2.4 and 2.5. In §2.4, Mr. Taylor gave his "*understanding*" that February 2019 and August to December 2019 were the months in which all non-faulty BTC Miners were being operated and this was supported by the range of performance observed in those months (which was consistent with the expected hash rate variance of +/-6% specified by the Batch 2 Contracts). Further, the observed fluctuations in hash rates between March and July 2019 was due to the redistribution of the BTC Miners. In §2.5, Mr. Taylor gave his "*understanding*" that the delay in putting the BTC Miners online from May 2018 to February 2019 was due to the various BTC Miner performance issues observed by the Claimants. The potential limiting factors in operating the BTC Miners were the physical hosting capacity and the electricity capacity of the Blockstream's mining farms. It was also Mr. Taylor's "*understanding*" that Blockstream was prepared to put all BTC Miners online by May 2018 using internal capacity available from its mining farms and external capacity available from short-term hosting arrangements with third party hosting companies, such as Coinmint. As such, the Claimants were able to build out and negotiate sufficient capacity with third party companies to meet their needs when the contracted BTC Miners were to be delivered.
222. The reasons for Mr. Taylor updating his calculation of the Claimants' consequential losses were provided by him in the Second Taylor Report §§2.5, 2.8 and 2.9. Essentially, this was done in response to Dr. Chen's and the Respondent's points.
223. In §2.5, Mr. Taylor said: "*I have updated my calculation of the Claimants' consequential losses to consider the use of such third-party hosting companies whilst the Claimants are completing the build-out of their mining farms. This update results in a slightly higher marginal cost to operate the BTC Miners in the initial period when the Claimants were utilizing such third-party holding companies and completing the build-out of their own mining farms.*"

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224. In §2.8, Mr. Taylor said: *“As a result of the issues discussed above, I have updated my calculation of the consequential losses relating to the Bitcoin mining activities for the following:*
- i. The capacity mix, electricity price and allocation of BTC Miners under the But-for Scenario;*
 - ii. The negative profit margin for Blockstream in certain months under the But-for Scenario;*
 - iii. The adjustment for loss of hash rates due to the redistribution of BTC Miners between mining farms.”*
225. In §2.9, Mr. Taylor said: *“I have also updated my calculation to reflect the current market price of Bitcoin of US\$30,711 as of April 14, 2023, under both But-for and Actual Scenarios. This is an increase in price of 54.1% since the First Taylor Report. The increase in the Bitcoin price is the dominant factor driving the increase in Bitcoin mining losses compared to the result in the First Taylor Report.”*
226. The Tribunal has carefully considered the methodology employed by Mr. Taylor in his calculations and the materials on which he relies. The Tribunal further considered that Mr. Taylor’s methodology was not seriously challenged by the Respondent during cross-examination. In all the circumstances, the Tribunal is satisfied with and accepts the methodology employed by, and the calculations made by, Mr. Taylor.
227. However, the Tribunal finds that on the issue of whether all of the non-faulty Miners were put online, Mr. Taylor may have strayed into giving factual evidence on behalf of the Claimants, but giving his *“understanding”* (referred to in para 221 above). The Tribunal therefore does not accept that evidence in full and has to make its own evaluation of the facts.
228. There are 5 issues between the parties in relation to the quantum of damages claimed by the Claimants, which arise from the arguments advanced by the Respondent:
- a. Causation;
 - b. Claimants failed to mitigate their loss;
 - c. Remoteness of damages;
 - d. Date of assessment of the value of the Lost Bitcoins;
 - e. Whether nominal damages should be awarded in view of Claimants’ failure to plead the quantity of defective miners.

(1) Causation

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229. The Respondent contends that even assuming the miners delivered had met the contractual hash rate of 15.5 TH/s, the Claimants would still have suffered the same loss because: (i) the Claimants simply lacked the ability to operate all the Miners, especially during the period before February 2019; (ii) the drop in the profitability of Bitcoin mining would have caused the Claimants to stop operating the Miners in any event. In other words, the Respondent is raising what is tantamount to the principle of *novus actus interveniens*.
230. The Respondent submitted that Mr. Taylor had used 26 May 2018 as the starting point for the calculation of damages and that Mr. Taylor assumed that the relevant period for the But-for Scenario lasted for 3 years from 26 May 2018⁸⁹. The Respondent criticized this approach for being incorrect, as Mr. Taylor had failed to take into account the fact that, on the Claimants' own case, the Claimants had not put all of the working miners online until February 2019 even though all of the Miners had been delivered by August 2018. The Respondent submitted that this error alone meant that Mr. Taylor's calculation of consequential loss is significantly inflated and unsafe to be relied upon as the basis of any award of consequential loss. The Respondent, however, conceded that Mr. Taylor had taken into account the redistribution of the Miners among Blockstream's different operating locations from March and July 2019⁹⁰.
231. The Respondent further alluded to the fact that the Claimants had failed to put the 16,000 or so miners online by February 2019 even though they had received those miners by August 2018. It was therefore inconceivable that if the Respondent had delivered an additional 3,288 miners (which were allegedly delivered late) to the Claimants by 25 May 2018, the Claimants would somehow be able to put all of the 17,227 miners online by August 2018.
232. As to the Claimants' reliance on the draft agreements with Coinmint (Exhibits C-88⁹¹ and C-89⁹²) for their case that, had the 3,200 miners arrived earlier, they would have contracted with Coinmint for the latter to host the additional miners, the Respondent submits that that is not credible as those were draft agreements which were never entered into and had an effective date of 20 March 2018. In other words, the Claimants must have decided not to enter into those draft agreements before 20 March 2018 which was 2 months before the contractual deadline for delivery of the Miners.
233. In relation to the alleged decline in the profitability of Bitcoin mining, the Respondent submitted that this occurred during the "Crypto Winter" in 2018 as a result of the plunging Bitcoin price and increase in the number of operators of Bitcoin miners globally. As accepted in the First Taylor Report, §5.12⁹³, only during February 2019 and August to December 2019 were all the delivered miners operated by the Claimants.
234. The Respondent further pointed out that as shown in the First Taylor Report, §5.10, the Claimant had almost completely ceased their operation of the Miners by August 2020, well

⁸⁹ First Taylor Report, §4.9 [A2/23/469]

⁹⁰ First Taylor Report, §4.14ii [A2/23/470]

⁹¹ See Merit Hearing Bundle [B2/56/739-754]

⁹² See Merit Hearing Bundle [B2/57/755-772]

⁹³ See Merit Hearing Bundle [A2/23/480]

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in advance of the end of their lifespan. As explained in Alex Ao's WS, para 16(4)-(7), this was likely due to the fact that Bitcoin mining was no longer profitable. Hence, the Claimants' inability to mine Bitcoins (at least in 2020) could not have been due to any defects in the Miners but had been caused by the unprofitability of Bitcoin mining.

235. On causation, the Claimant's submission is as follows: the answer to the question whether the Claimants would have been able to earn the Lost Bitcoins during the Relevant Period but for the Respondent's breaches of the Agreement is clearly "yes".
236. The Claimant submitted that had the Respondent delivered BTC Miners that had the warranted quality, it would have been "virtually certain" that the Claimants would receive the Lost Bitcoins as additional rewards from the Slush Pool. The Claimants relied on Mr. Taylor's unchallenged analysis⁹⁴, in this counterfactual scenario, that it was "virtually certain" that the Claimants would have received the Lost Bitcoins in addition to what the Claimants actually earned during the Relevant Period. Further, the Claimants pointed to the First Chen Report, §15(1)(b) where he said: "Miners use their computing processing power to secure the network, record all of the Bitcoin transactions and get rewarded in Bitcoin for their efforts. The higher the hash rate of one individual Bitcoin mining machine, the more Bitcoin that machine will mine."
237. The Claimants submitted that the Respondent's argument on the Relevant Period was misconceived and based on a misunderstanding of the evidence. On the unchallenged evidence of Alec Chen, whilst the Claimants did not have sufficient capacity to operate all the Miners until February 2019, they were ready, willing and able to make up the shortfall in capacity by engaging third party hosting service providers and by increasing the electrical capacity of the mining farm. The only reason this was not done between May 2018 and February 2019 was that (i) the Miners supplied by the Respondent were defective; (ii) it would not have been sensible to offload a host of broken miners to a third party without understanding the scope of the problem and whilst the Claimants' attention was diverted to fixing the problem. It follows that the Claimants could and would have operated all the Minder since 26 May 2018 and it would have been wholly irrational for the Claimants not to do so after having spent USD 20.5 million on the Miners. In support, the Claimants referred, among others, to the drafting hosting contracts that Blockstream had negotiated with Coinmint in anticipation of the arrival of the Miners and a Power Purchase Agreement which Blockstream was negotiating with the City of Adel, Georgia as well as the fact that Blockstream was in discussions with Hydro Quebec to substantially increase the power capacity at the Montreal Farm before the deadline for delivery of the Miners⁹⁵.
238. In response to the Respondent's allegation regarding the drop in the profitability of Bitcoin mining, the Claimants submitted that this allegation was baseless as (i) the price of Bitcoin increased sharply between 2018 and 2020; and (ii) the Claimants conducted Bitcoin mining activities in the expectation that the value of the crypto currency would increase in the long run, so any short term fluctuation in Bitcoin price could not have caused the Claimants to quit mining.

⁹⁴ See Transcript [D2/68:2-14]

⁹⁵ Alec Chen Reply WS, §69 [A1/17/378]

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239. On this issue of causation, the Tribunal considers that the Claimants have demonstrated that the causation between the defects in the Miners and the Lost Bitcoin has been made out and that the events that amounted to *novus actus interveniens* raised by the Respondent were not proved. The Tribunal is persuaded by the evidence that the Claimants did in fact make every reasonable effort to increase the electrical capability and the hosting capability before the scheduled delivery of the Miners. The Tribunal also considers Alec Chen's evidence on the various draft contracts to be credible and the fact that he did not negotiate them does not detract from the fact that those reasonable efforts were made.

(2) Mitigation

240. The next issue is the Respondent's argument that the Claimants failed to mitigate their loss. This argument takes two forms: (i) the Claimants could have gone to the market and purchase the same number of Bitcoins as the Lost Bitcoins and then claim any difference as consequential losses; (ii) the Claimants could have purchased replacement miners or sent the defective Miners back to the Respondent for replacement.

241. The Claimants' response, which is based on legal authorities, can be summarized as follows: (i) the burden of proving a failure to mitigate and that this increased the harm suffered, falls squarely on the respondent; (ii) the Tribunal must not be too stringent in its expectations of the Claimants. The Claimants are not bound to nurse the interests of the contract breaker and the reasonableness of the claimant's action shall not be judged with the benefit of hindsight; (iii) a claimant need not take risks with his money nor sacrifice any of his property or rights in order to mitigate losses. Nor are the Claimants expected to take steps which would involve unreasonable expenses, risk or inconvenience: *Thai Airways International Public Co Ltd v KI Holdings Co Ltd* [2015] EWHC 1250⁹⁶.

242. The Claimants contend that in the present case, there is no basis for asserting that the Claimants should have purchased replacement miners to mitigate their loss of Bitcoins. First, there is no evidence that the Claimants would have been able to obtain replacement miners on the market, let alone to do so without involving unreasonable expense, risk or inconvenience. Secondly, the Claimants, having already spent more than USD 20.5 million on the purchase of the defective Miners and PSUs, could not be faulted for not expending further funds to mitigate their loss. This is particularly so given that the Claimants knew from their experience with the Respondent that miners on the market could have a high failure rate. In such circumstances, the Claimants could not be reasonably expected to incur further capital risks so as to nurse the Respondent's interests.

243. The Claimants pointed out that the Respondent's argument regarding the Claimants' ability to purchase Bitcoins from the market to mitigate their loss is a red herring because even if the Claimants had bought the same number of Bitcoins as that which they are claiming in this arbitration, those Bitcoins would not be able to mitigate the Claimants' loss, as the Claimants would have twice the number of Bitcoins now if the Respondent had performed the Agreements.

⁹⁶ See Exhibit CL-103

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244. With regard to the Respondent's argument that the Claimants failed to mitigate their loss by allegedly refusing to ship the defective Miners back to China, the Tribunal has already made a determination on this issue⁹⁷ and there is no merit to this argument.
245. With regard to the Respondent's argument that the Claimants failed to mitigate their loss by allegedly refusing to accept 600 replacement Miners from Daniel Rafuse, the Tribunal similarly made a determination on this issue⁹⁸ and there is no merit to this argument.

(3) Remoteness

246. In Section E of the Respondent's Closing Submissions, the Respondent asserted that the Claimants are, in substance, claiming two different types of loss: (i) loss of profit from the operation of the Miners; and (ii) loss of profit from the Claimants' own investment strategy with respect to Bitcoin. The Respondent submits that the second type of loss is not recoverable because (a) such loss is too remote and was not within the Respondent's reasonable contemplation at the time of contract since the Respondent had never been informed by the Claimants of their so-called "holding strategy; and (b) the Respondent did not assume responsibility for that type of loss. The Respondent cited the following authorities: *Victoria Laundry (Windsor) Ltd v. Newman Industries Ltd* [1949] 2 KB 528; *Transfield Shipping Inc. v. Mercator Shipping Inc (The Achilles)* [2009] 1 AC 61; *Mulvenna v. Royal Bank of Scotland PLC* [2003] EWCA Civ 1112; MrGregor on Damages (21st Ed) §52-004.
247. In response to the Respondent's submission, the Claimants submitted that the relevant loss occasioned by the Respondent's breaches of the Agreements is simply the loss of Bitcoins and it could not be seriously argued that the loss of Bitcoins was too remote since this was the obvious loss which the Claimants would suffer as a result of the Respondent's supply of defective Bitcoin mining equipment under the Agreements. The extent of such loss is completely irrelevant to remoteness: *H. Parsons (Livestock) Ltd v. Uttley, Ingham & Co Ltd* [1978] QB 791 at 805B-D (Orr LJ); 814B-D (Scarman LG).
248. The Claimants contended that the true question for the Tribunal is whether the Lost Bitcoins should be valued based on present day value. This goes to the timing of assessment of damages and has nothing to do with remoteness.
249. The Claimants further submit that even if (contrary to their case) the Lost Bitcoins could properly be characterized as a loss arising from the Claimants' holding strategy, such loss would still be sufficiently proximate to be recoverable as it would be an ordinary loss arising from the Respondent's breaches of the Agreements. In contract, a loss is not too remote if (i) it is fairly and reasonably considered as arising naturally (i.e. according to the usual course of things) from the breach of contract, such as knowledge is imputed to the contract-breaker; or (ii) the contract-breaker acquired actual knowledge at the time when the contract was made in respect of special circumstances giving rise to the type of damage which cannot be said to result naturally from the breach of contract: *De Monsa Investments Ltd v. Richly Bright International Ltd* (2015) 18 HKCFAR 232. Further, a contract-

⁹⁷ See para. 177 above.⁹⁸ See para. 194 above.

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breaker may only be liable for a particular type of loss for which, having regard to the nature and object of the contract against its commercial background, he has assumed responsibility: *De Monsa*, adopting *The Achilleas*.

250. The Claimants submitted that in the present case, the Lost Bitcoins was plainly a loss arising naturally according to the usual course of things, given that (i) Bitcoins, being a type of “investment”, would naturally either be held for short-term trading or long-term holding; and (ii) in circumstances where the Claimants did not specifically inform the Respondent at the time of the Agreements of their investment strategy, either would be within the reasonable contemplation of Respondent as not unlikely. Accordingly, it is presumed that the Respondent assumed responsibility for the Lost Bitcoins. This presumption is not rebutted by the fact that the price of Bitcoins is volatile (which the Respondents knew) and that despite such knowledge, the Respondent carried on the business of supplying Bitcoin mining equipment, which naturally and necessarily involved the risk that its customers may lose Bitcoins as a result of the equipment being faulty. The Respondent should therefore be taken to have assumed the risk that its potential liability would fluctuate with the market price of Bitcoins and therefore be unpredictable.

(4) *Date of assessment of damages*

251. The Claimants submit that while damages for breach of contract ordinarily fall to be assessed at the date of breach, the relevant date should be the date at which the claimant could reasonably have been expected to mitigate its loss by seeking an alternative to performance of the contractual obligation: *Radford v. De Froberville* [1977] 1 WLR 1262, approved in *Johnson v. Agnew* [1980] AC 367.
252. Thus, if the Claimant did not and could not have been expected to have recourse to the market at the date of breach by way of mitigation (to replace the performance not provided by the defendant), then the date of breach will not apply: *Adam Kramer QC, The Law of Contract Damages* (3rd ed, 2022) at §17-11. The overarching principle is the compensatory principle, which requires that the injured party is “so far as money can do it be placed in the same situation with respect of damages as if the contract had been performed”: *Bunge SA v. Nidera BV* [2015] 3 All ER 1082.
253. The Claimants submit that since the Claimants could not have been reasonably expected to purchase replacement miners or otherwise mitigate their loss, damages fall to be assessed at the date of the award, in which case the Lost Bitcoins should be valued based on their current value.
254. The Respondent’s case on this issue is set out, inter alia, in their Statement of Defence [A2/4/45]:

“58. The date of assessing the value of the Bitcoin that the Claimants would have made had there been no breach of the Agreements is the date of breach.

58.1 It is trite that persons against whom wrongs have been committed are not entitled to sit back and suffer loss which could be avoided by reasonable efforts

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and have a duty to take all reasonable steps to mitigate the loss consequent on the breach: British Westinghouse Co v Underground Ry [1912] A.C. 673 [RLOA#3].

58.2 In Jamal v Moolla Dawood [1916] 1 A.C. 175 PC [RLOA#4] at 179, per Lord Wrenbury: “It is undoubted law that a plaintiff who sues for damages owes the duty of taking all reasonable steps to mitigate the loss consequent upon the breach and cannot claim as damages any sum that is due to his own neglect. But the loss to be ascertained is the loss at the date of the breach. If at that date the plaintiff could do something or did something which mitigated the damage, the defendant is entitled to the benefit of it.” (Emphasis in the original)

255. However, in the Respondent’s answer to the Tribunal’s question on the date of assessment in the Respondent’s Closing, it said as follows:

“In respect of the Claimants’ “Lost Profit from Mining”, the Respondent accepts that the date of assessment should be at the end of the 3-year lifespan of the miners as adopted in Mr. Taylor’s calculation.

In respect of the Claimants’ “Lost Profit from Bitcoin Investment”, the Respondent submits that no issue of date of assessment arises because this type of loss is not recoverable for being too remote.”⁹⁹

256. It was therefore an agreed fact between the Parties that the lifespan of the Miners is 3 years. That being the case, the Tribunal finds that by the end of the 3-year period, the Claimants would have mined 2,331.6 Bitcoins more, if the Miners had been in good working order and if all the non-faulty Miners had been put online. During that 3-year period, the daily closing price of Bitcoins would also have fluctuated from day to day. This is a matter of historical record for the daily closing price of Bitcoins during the period 26 May 2018 to 25 May 2021 and can easily be ascertained by the parties to calculate the average price of each Bitcoin on a daily basis during the 3-year period in US Dollars.
257. The Claimants say that they adopted a holding strategy for the mined Bitcoins and they only sold a small part of their Bitcoins during this period, to cover expenses etc. On that basis, the Claimants contend that their damage should be based on the price of Bitcoins on the date of the Final Award, multiplied by the number of Lost Bitcoins. The Respondent objects to this, as they were never told of this alleged holding strategy.
258. The Tribunal holds that it would be inappropriate for the Claimants’ damages to be assessed at the date of the Award. That is tantamount to a lottery and is not the function of damages under Hong Kong law. Under Hong Kong law, the function of damages is to put the wronged party into the position he would have been in had it not been for the breach:
- **CL-78: *Swynson Ltd v Lowick Rose llp* [2017] UKSC 32 [C1/21/344]:** “*The compensatory principle enables the claimant to recover as damages a sum of money which would put him in the same position as if he had not suffered the wrong. The claimant is not entitled to compensation*

⁹⁹ See the Respondent’s Closing, p. 37, Question 5.

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because it has been fully paid. It has received everything to which it was entitled in respect of the transaction. It has no loss in respect of which it is entitled to compensation."

• **CL-79: *Linden Garden Trust Ltd v Lenesta Sludge Disposals Ltd*** [1994] 1 AC 85 [C1/22/390]: *"Once the plaintiff has proved that he has suffered a loss caused by a breach of contract, the measure of damages to which he is entitled is the sum of money which will put him in the same position as he would have been in if he had not sustained the wrong: Livingstone v. Rawyards Coal Co. (1880) 5 App.Cas. 25, 39."*

• **CL-80: *Clark v Mancourt*** (2013) 253 CLR 1 [C1/23/420]: *"There was, therefore, no dispute in this Court, or in the courts below, that a plaintiff who sues for breach of contract is to be awarded as damages "that sum of money which will put the party who has been injured ... in the same position as he [or she] would have been in if he [or she] had not sustained the wrong for which he [or she] is now getting his [or her] compensation or reparation" (13). Nor was there, or could there have been, any dispute that when a contract has been breached, the position in which the plaintiff is to be put, by an award of damages, is the position in which the plaintiff would have been if the contract had been performed (14)."*

259. Applying Hong Kong law principles, the Tribunal finds that damages should be valued as at the date of the breach, which is 26 May 2018. However, that date, by itself, is not sufficient because if all of the Miners had been delivered on time by that date, they would be put into operation during their entire 3-year lifespan (based on the Claimants' own case). Therefore, during the lifespan of the Miners, the Claimants would continue to mine Bitcoins until the expiry of the 3 years. Thus, taking the average daily closing price of Bitcoins over that 3-year period and multiplying it by the number of Lost Bitcoins is, in the Tribunal's view, the most appropriate measure of damages.

(5) Nominal damages

260. The Respondent submitted that even if the Tribunal were to accept that some of the Miners are defective, the fact that the Claimants had failed to plead (let alone prove) the quantity of miners that are defective and have therefore failed to prove the amount of damages recoverable, only nominal damages can be awarded.
261. The Respondent cited the following legal authorities in support of their submission.

"It is up to the claimant to prove any loss for which he claims to recover, together where necessary with its amount. If he cannot prove any recoverable loss, then in the case of a wrong actionable per se he recovers merely nominal damages: The Law of Damages by Prof Andrew Tettenborn (2nd Ed) at §3.78."

262. In ***Placer (Granny Smith) Pty Ltd v. Thiess Contractors Pty Ltd*** [2003] HCA 10¹⁰⁰, it was held that *"It may be that, in at least some cases, it is necessary or desirable to distinguish between a case where a plaintiff cannot adduce precise evidence of what has been lost and a case where, although apparently able to do so, the plaintiff has not adduced such evidence. In the former kind of case it may be that estimation, if not guesswork, may be necessary in assessing the damages to be allowed. References to mere difficulty in estimating damages*

¹⁰⁰ See the Respondent's List of Authorities for Closing Submissions [RLOA#18].

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not relieving a court from the responsibility of estimating them as best as it can, may find their most apt application in cases of the former rather than the latter kind”.

263. “Insofar as precise evidence is reasonably available, the claimant must adduce it, otherwise it may be found that the claimant is only entitled to nominal damages”: **Damages for Breach of Contract** (Katy Barnett) (2nd Ed) §2-062¹⁰¹.
264. In sum, the Respondent submitted that where the Claimants were in a position, but failed to adduce proper evidence, to prove the amount of the recoverable loss with precise evidence, only nominal damages should be awarded.
265. The Claimants responded as follows. First, the quantity of defective Miners is wholly irrelevant to the Claimants’ claims. The Claimants have proved that the Respondent delivered only a collective hash rate of 121.27 PH/s under the Agreements, i.e. 52.1% of the contracted-for hash rate; and the only plausible and available explanation for this deficiency is that the Miners were inherently defective. Second, it is wrong for the Respondent to assert that no direct evidence of defects is available. The Slush Pool Data is direct, contemporaneously recorded evidence that the Miners fell short of contractual specifications. Third, there is no basis for the Respondent to assert that evidence as to the quantity of defective Miners or testing evidence of defects is reasonably available to the Claimants.
266. The Claimant submitted that they are not required to prove their case on liability or quantum with absolute certainty. They contend that as long as the Claimants have proved on the balance of probabilities (i.e. more than 50%) that they have suffered the losses claimed in this arbitration as a result of the Respondent’s breaches of the Agreements, the Claimants have fully discharged their burden of proof and it matters not whether their case could be improved with any further evidence. Indeed, it has been pointed out in case authorities that (i) the fact that damages cannot be assessed with certainty does not relieve the wrongdoer of the necessity of paying damages: *Chaplin v. Hicks* [1911] 2 KB 786¹⁰²; and (ii) where precise evidence is obtainable, the court naturally expects to have it, [but] where it is not, the court must do the best it can: *Biggin v. Permanite* [1951] 1 KB 422 at 438 (Devlin J)¹⁰³.
- (6) *The Tribunal’s analysis*
267. The Tribunal has carefully considered the points raised by the Parties. In the Tribunal’s view, the Claimants have succeeded on showing causation. This is not a difficult point, as there is no serious dispute between the Parties that had all the Miners been delivered in good working condition, the Claimants would have earned more Bitcoins because the overall computer power that the Claimants would have contributed to the Slush Pool would be corresponding higher. There is no dispute between the Parties that this would result in more Bitcoin rewards being paid to the Claimants, since the combined computing power

¹⁰¹ See the Respondent’s List of Authorities for Closing Submissions [RLOA#19].

¹⁰² See 2nd Supplemental List Of Authorities of the Claimants, No. 109.

¹⁰³ See 2nd Supplemental List Of Authorities of the Claimants, No. 110.

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of the Slush Pool would be higher, as would be the percentage share of the Claimants in the Slush Pool.

268. In this regard, the Tribunal also accepts on the unchallenged evidence of Mr. Taylor that it is a “virtual certainty” that with increased computer power, the Claimants would have earned the Lost Bitcoins in the But-for Scenario.
269. On the issue of mitigation of loss, the Tribunal accepts that, as a matter of law, there is a duty on the Claimants’ part to mitigate their loss. On the evidence, the Claimants had done all that they reasonably could to mitigate their loss. The Claimants had complained about the defects in the Miners and PSUs to the Respondent as soon as they surfaced and enquired whether the defective units could be shipped back to the Respondent to be replaced. However, the Claimants were told by the Respondent that the Respondent would send personnel to Montreal to rectify the issue and were told not to ship the units back. When that did not materialize (after several months of delay), the Respondent told the Claimants that Daniel Rafuse would deliver 600 units of Miners to the Claimants as partial replacement. As it turned out, those purported replacement miners were not even the Respondent’s miners and were subject to a plethora of legal tussle and issues. Eventually, Rafuse even wanted the Claimants to pay for them when they were supposedly free of charge.
270. The Tribunal does not agree with the Respondent that the Claimants had a duty to purchase replacement Bitcoin miners and PSUs from the market as a matter of mitigation. The Claimants had already expended a sum of USD 20.5 million to purchase the Miners and PSUs and it would be going beyond what is expected of them in mitigation to require the Claimants to purchase more miners and PSUs from the market. Further, there is no evidence adduced by the Respondent about the existence of such a market, nor how long it will take for the Claimants to be able to purchase suitable and workable replacement miners.
271. Nor does the Tribunal accept the Respondent’s submission that the Claimants had a duty to purchase the Lost Bitcoin from the open market as a matter of mitigation. The Tribunal accepts the Claimants’ submission that this point does not take the Respondent anywhere. Once an opportunity is lost, it is lost forever and it does not matter that the Claimants go on the market to purchase a certain quantity of Bitcoins, because the lost Bitcoins cannot be made up by any amount of purchase, since the Claimants could have had even more Bitcoins if the contract had not been breached.
272. The Tribunal now turns to the issue of remoteness. The Tribunal notes that there is a divergence between the parties’ cases in that the Claimants say that there is only one head of loss – i.e. the Lost Bitcoins, while the Respondent says there are two heads (i) loss of profit from the operation of the Miners; and (ii) loss of profit from the Claimants’ own investment strategy with respect to Bitcoin. The Tribunal does not find that the Claimants have pleaded the two heads of loss. The Claimants’ case is fairly straightforward – because of the Respondent’s breach, the Claimants have lost the opportunity to be rewarded with more Bitcoins, i.e. the Lost Bitcoins. Accordingly, the Tribunal does not agree with the approach of the Respondent since that is not in fact what the Claimants have claimed.

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273. There might be something to be said for the Respondent's approach if the issue is the date on which damages are to be assessed. If, as contended by the Claimants, their damages for Lost Bitcoins should be assessed as at the date of the Award, then conceivably the Respondent could argue that the Claimants were trying to claim for loss of profit from their investment strategy of holding on to the Bitcoin. This is because if the date of assessment were to be the date of the Award, it would mean that the Claimants must be deemed to have mined and then held on to the Lost Bitcoins until the date of the award. However, for reasons that the Tribunal will explain below, we do not support this approach and therefore the issue falls away.
274. That, however, is not the end of the matter as far as assessment of damages is concerned. The Claimants' case is that the maximum hash rate delivered by the Respondent (when all of the serviceable Miners were working) was only 52.1% of the contractual hash rate under the 3 Agreements. They rely on the Slush Pool data which purportedly show this.
275. The Respondent submitted that the Slush Pool data only showed the percentage of the Claimants' contribution to the Slush Pool (based on the total hash rate that the Claimants' miners contributed) but did not actually show how many Miners were online at the same time. The Claimants' answer to this submission is that whatever number of "workers" shown on the slush pool dashboard at a particular point in time is not an accurate depiction of how many actual miners are online because a few miners can be combined to form one "worker". The Claimants submitted that there was no sensible commercial reason why, having spent over USD 20 million to buy the Miners, the Claimants would not put them all online as soon as practicable instead of allowing a large number of them to lie fallow.
276. The Tribunal can see the commercial sense of the Claimants' argument but that is not *per se* evidence, but merely the Claimants' say-so. The Tribunal also recalls the undisputed evidence that for a short period (from between February/March 2019 and July 2019), not all of the Miners were put to work by the Claimants because their Georgia mining farm was not ready. The Tribunal therefore has some sympathy for the Respondent's submission that there were indeed times when not all of the working miners were put to work and that this could have contributed to the 52.1% performance rate
277. The Tribunal recalls that in the WeChat messages exchanged between the parties, Chris Cook had specifically mentioned at one point that around 5,000 miners were not working¹⁰⁴. Based on the total number of miners delivered, which is 17,227, 5,000 defective Miners constitutes about 29.02% of the total number of Miners delivered. Assuming the Claimants' case is accepted at its highest (i.e. that all of the Miners when put online to work at the same time only performed at 52.1% of the contracted total hash rate, that means that there was a failure rate of 47.9% (this is calculated by taking 100% being the contractually agreed total hash rate minus 52.1% being the figure revealed by the Slush Pool data). Assuming each of the 17,227 Miners had equal computing power, a failure rate of 47.9% would mean

¹⁰⁴ On 17 April 2019, Chris Cook asked Alex Ao "what is going on with getting these miners? We have finished testing everything we have and here are over 5000 miners that have all the hash boards dead." Alex Ao responded "we have informed Daniel to release those miners to your farm" and "let me contact him again".

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that 8251.73 Miners were non-performing. However, the Tribunal appreciates that not all of the Miners sold and delivered had identical computing power.

278. The Tribunal realizes that it cannot be completely precise or accurate about the exact number of Miners that were put online, since no such evidence had been placed before it. If, however, weight is given to the Respondent's submission that not all of the 17,227 Miners delivered were put online at the same time to maximize the total computing power (owing to the constraint in the physical and electrical capacity on the part of the Claimants), the actual failure rate may not be as high as 47.9% but could be lower. The Tribunal can only make its best estimate on the basis of the evidence available. On the evidence, the Tribunal believes it would not be unreasonable to use the the average of 29.02% (based on the Claimants' own statement that 5,000 Miners were not working, and 47.9% (the Claimants' case at its highest) to arrive at the average failure rate of 38.46%.
279. In the Second Taylor Report, Appendix 2, Mr. Taylor sets out in an Excel spreadsheet his calculation of the number of Bitcoins as damages for each of the Claimants. This is arrived at by deducting the actual number of Bitcoins mined from the number of Bitcoins which could have been mined but for the Respondent's breach. We set out below the number of Bitcoins lost for each of the Claimants based on the ratios set out in parentheses:
- a. 1st Claimant: 530.6 (22.76%);
 - b. 2nd Claimant: 1,736.4 (74.47%);
 - c. 3rd Claimant: 64.6 (2.77%)

The total of (a)-(c) is 2,331.6 Bitcoins (100%), representing Mr. Taylor's computation of the number of Lost Bitcoins.

280. Applying the Tribunal's finding that the actual compensable failure rate is 38.46%, instead of 2,331.7 Lost Bitcoins claimed by the Claimants (based on a failure rate of 47.9%), the Claimants are entitled to only 1,871.61 Bitcoins as consequential loss, based on the Tribunal's finding that the failure rate is 38.46%.
281. Based on the Tribunal's finding and applying the ratio apportionment used by Mr. Taylor in Appendix 2, the corresponding consequential loss for each Claimant is as follows¹⁰⁵:
- a. 1st Claimant: 425.98 Bitcoins;
 - b. 2nd Claimant: 1,393.79 Bitcoins;
 - c. 3rd Claimant: 51.84 Bitcoins
- totaling 1,871.61 Bitcoins.

¹⁰⁵ This computation is done by applying the ratio of Bitcoins allocated for each of the Claimants in para. 277 and applying those ratios to the reduced total number of lost Bitcoins of 1,871.61 Bitcoins (based on the Tribunal's determination that the failure rate of the Miners is 38.46%).

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282. As explained above, the Tribunal does not accept the Claimants' submission that the monetary damages are to be awarded should be based on the price of Bitcoin as of the date of the Award. Instead, the Tribunal has determined that it is to be based on the average price of Bitcoins during the 3-year period 26 May 2018 to 25 May 2021. The start date of this 3-year period is the day immediately after the date of delivery and the end date is the end of the 3-year lifespan of the Miners.
283. Given that the Claimant's submission for determining the monetary value of the Lost Bitcoin has not been accepted by the Tribunal, there is currently no evidence before the Tribunal to allow it to determine the monetary value based on the Tribunal's formula in the preceding paragraph. The Tribunal believes that it would not be a difficult task for the Parties and their Counsel to come to an agreement on the said monetary value, given that the average daily price of Bitcoins is documented on various websites or databases. **Accordingly, the Tribunal directs the Parties to come to an agreement, within three weeks of the issuance of this Partial Final Award, on the monetary value (in US Dollars) of the damages based on the average daily closing price of Bitcoins during the 3-year period between 26 May 2018 and 25 May 2021 (both dates inclusive) and so inform the Tribunal.**
284. Since Arbitrator Ernest Yang holds a different view to the majority's decision that the Respondent had breached the Agreements, it follows that he does not join in the majority's decision that the Respondent is liable to the Claimants for damages.

XI. ISSUE 6: WHETHER THE RESPONDENT IS LIABLE FOR THE CLAIMANTS' CONSEQUENTIAL LOSSES PART II – LOSS OF HOSTING SERVICE FEES

285. The next issue on quantum concerns the question whether the Respondent is liable for the 1st Claimant's loss of hosting service fees.
286. The Claimants claimed that in addition to the loss of Bitcoins, the 1st Claimant has suffered an additional loss of hosting service fees which it would have earned if the Respondent had performed the Thigmotropism Agreement and the Back Agreement.
287. The Claimants submitted that based on Mr. Taylor's unchallenged calculations, Mr. Back and Thigmotropism are entitled to a sum of USD 6,169,975 for this head of loss which they are bound to account to Blockstream and which they are content for the Tribunal to directly award to Blockstream.
288. The Claimants submitted that the fact that Blockstream is not a party to the Back Agreement and the Thigmotropism Agreement poses no difficulty for this head of claim because (i) whilst a claimant in a breach of contract action generally cannot sue for loss caused by the breach to a third party, the claimant may recover such loss on behalf of the third party where it is contemplated that the property forming the subject of the contract would be transferred to or occupied by the third party: *Swynson Ltd v. Lowick Rose LLP* [2018] AC 313 at 52 (Lord Mance); *Linden Garden Trust Ltd v. Lenesta Sludge Disposals Ltd* [1994] 1 AC 85 (Lord Browne-Wilkinson); (ii) Section 2 of the Back Agreement and Thigmotropism

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Agreement explicitly contemplated that the Miners could be transferred to Blockstream for hosting services and Blockstream would lose hosting fees insofar as the Miners were defective.

289. The Claimants emphasized that allowing Blockstream to claim its loss of hosting fee does not have the effect of increasing the collective losses suffered by the Claimants but only has the effect of re-distributing losses among them. By Mr. Taylor's unchallenged calculations, allowing the claim for lost hosting fees would increase Blockstream's recovery by USD 6,169,975 and decrease the recovery of Thigmatropism and Mr. Back accordingly.
290. The Respondent, in its Statement of Defence¹⁰⁶, objected to this head of claim because it is wrong as a matter of law and principle. Firstly, the relevant breach in question is breach of the Back Agreement and the Thigmatropism Agreement and it is unclear how Blockstream would claim damages arising from breach of these two agreements when Blockstream is not a party to these agreements. Secondly, as a matter of logic, even if Blockstream did host more miners of Back and Thigmatropism and made a larger profit from the fixed electricity fee, any such profit would necessarily come from Back and Thigmatropism. Therefore, the collective loss of the Claimants would not increase due to any hosting services fees that would be paid by Back and Thigmatropism to Blockstream in the Claimants' counterfactual.
291. The Tribunal does not accept this head of claim. The arbitration agreement is between each of the Claimants and the Respondent under each of the three Agreements. The Agreement between 1st Claimant and the Respondent is for Respondent to supply miners to the 1st Claimant, as is the case with the other two Agreements. There is no agreement between Respondent and the 2nd and 3rd Claimants that the Respondent would underwrite the hosting fees to be earned by the 1st Claimant on the basis that it will be hosting the miners purchased by the 2nd and 3rd Claimants.
292. Also, the principles enunciated by Lord Mance in *Swynson v. Lowick* do not, in the Tribunal's view, apply to the present case. Lord Mance was there dealing with the concept of "transferred loss" (see page 335 of the report, para 51 *et al*). That is a category of loss which is an exception to the normal principle that a claimant in an action for breach of contract cannot recover damages in respect of loss caused by the breach to some third person not a party to the contract. This narrow exception applies only in a case where it was in the contemplation of the parties when the contract was made that the property (Miners) would be transferred to or occupied by a third party (Blockstream) who would in consequence suffer the loss arising from its breach. What the Claimants are contending here is quite different – it is not that the parties had contemplated that the Miners would be used by Blockstream; instead it is argued that the Miners would be hosted by Blockstream but still used by Back or Thigmatropism, as the case may be. Hence, the factual matrix does not support the application of this narrow exception.

¹⁰⁶ See Merit Hearing Bundle [A2/4/45].

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293. Accordingly, the Tribunal dismisses this head of claim.

XII. ISSUE 7: WHETHER THE RESPONDENT IS LIABLE FOR THE CLAIMANTS' DIRECT LOSSES

294. This is claimed by the Claimants as an alternative, in the event that their main claim for consequential losses fails.

295. The Claimants alternatively seek damages for direct loss in the sum of USD 9,828,155 plus pre-award interest from 26 May 2018 (being the day following the contractual deadline of delivery).

296. The Claimants rely on Mr. Taylor's calculations for this figure¹⁰⁷. The Claimants submit that the difference in value damages should be assessed as of the date of delivery as there is no discernible basis for the prima facie rule to be displaced. Accordingly, damages for direct loss fall to be assessed based on the difference in value between the Miners as warranted and as delivered as of the date of delivery, which yields USD 9828155. This represents the amount of money that the Claimants overpaid at the delivery date for the hash rate that was never delivered by the Respondent's Miners.

297. The Respondent, in their Statement of Defence¹⁰⁸, objected to this head of claim and submitted that the Tribunal should reject it.

298. The Respondent's submission, in brief, is that even if the value of the Miners at the time of delivery is lower as alleged, the Claimants had not suffered any loss of damage as a result. Since the Claimants never sought to on-sell or re-sell the Miners, the Claimants would have miners that become worthless in 3 years at the end of their lifespan, whether the Miners were defective or not.

299. Any loss or damage that the Claimants suffered by virtue of the defects of the Miners, including the lower hash rate would be covered by the Claimants' claim for consequential loss. To allow the Claimants to recover the alleged direct loss against the Respondent would be tantamount to double recovery.

300. The Tribunal considers that this issue is academic, given that the Tribunal is allowing (albeit not in full) the Claimants' claim for consequential losses.

XIII. COSTS AND INTEREST

301. The Claimants have sought post-award interest at 8% per annum on all sums found due until the date of final payment to the Claimants.

¹⁰⁷ Section 5 of the Second Taylor Report §§5.1-6.3 [A2/25/547-552]

¹⁰⁸ A2/4/69

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302. Section 80 of the Arbitration Ordinance allows for interest to be awarded in the discretion of the Tribunal and the Tribunal sees no reason not to so order. Accordingly, this claim is allowed.

XIV. DISPOSITIVE

303. The Tribunal **DECIDES, DIRECTS AND ORDERS** as follows:

- (a) The Respondent has committed a breach of contract in respect of each of the Agreements;
- (b) In respect of the consequential losses suffered by the Claimants:
 - (1) The Respondent do pay to the 1st Claimant the monetary value of 425.98 Bitcoins;
 - (2) The Respondent do pay to the 2nd Claimant the monetary value of 1,393.79 Bitcoins;
 - (3) The Respondent do pay to the 3rd Claimant the monetary value of 51.84 Bitcoins.

In respect of the monetary value of the damages, the Tribunal directs the Parties to jointly agree on and submit a figure representing the average daily closing price of Bitcoin during the period 26 May 2018 to 25 May 2021 (both dates inclusive), within **three weeks of the issuance of this Partial Final Award**, for the Tribunal's assessment. If the Parties cannot come to an agreement on the monetary value by the end of the three weeks, the Tribunal shall determine the monetary value after receiving written submissions (within **seven days** of the three-week deadline) from the Parties citing relevant sources of determining such value.

- (c) Post-award interest at 8% per annum on all sums found due until date of final payment to the Claimants;
- (d) All other claims and counterclaims not covered above be dismissed;
- (e) Costs of this arbitration and legal and other costs to be reserved for further determination after the Tribunal receives further submissions from the Parties.

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Dated this 19th day of December 2023

Seat of Arbitration: Hong Kong



Stephen E. Smith
Co-arbitrator



Ernest Yang
Co-arbitrator

(I dissent for the reasons set out in a Separate
Opinion attached)

Ing Loong Yang
Presiding Arbitrator

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Ing Loong Yang
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